INSTRUCTIONS

MODEL 605B
PRESCALER
(Prefix 500)

Beckman®

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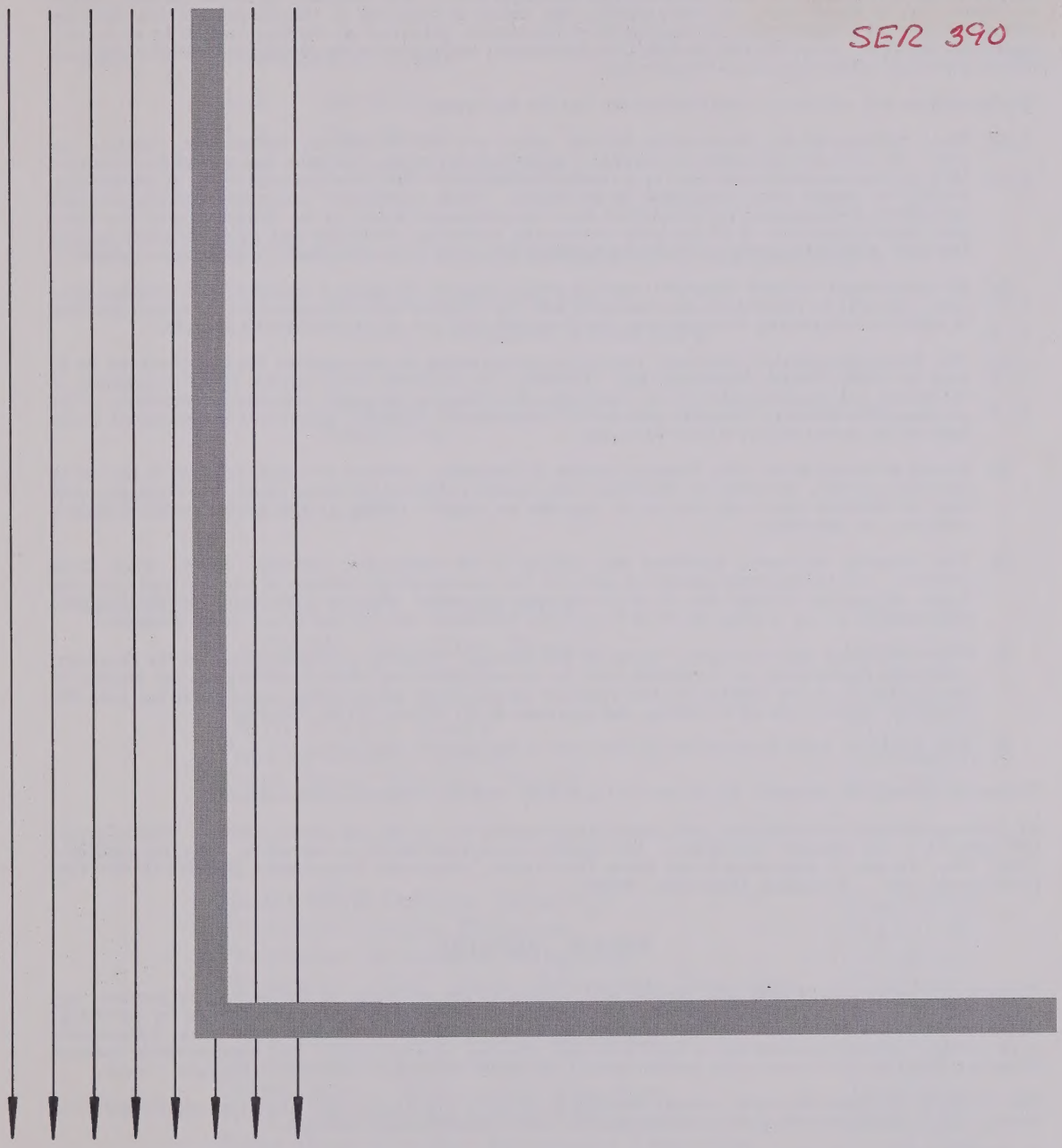
ELECTRONIC INSTRUMENTS DIVISION
of Beckman Instruments, Inc.
composed of the former Berkeley
Division and Offner Operations

INSTRUCTION MANUAL

MODEL 605B
PRESCALER
(Prefix 500)

SER 390



Beckman® INSTRUMENTS, INC.
ELECTRONIC INSTRUMENTS DIVISION
2200 WRIGHT AVENUE
RICHMOND, CALIFORNIA • 94804
(415) 526-7730; TWX: 910-382-8125

INTERNATIONAL SUBSIDIARIES: Geneva; Munich; Glenrothes, Scotland; Tokyo; Paris; Capetown; London; Mexico City.

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WARRANTY

Instruments sold by Electronic Instruments Division, Beckman Instruments, Inc., (hereafter called "the Company") are warranted only as stated below.

Subject to the exceptions and upon the conditions specified below, the Company agrees to correct, either by repair, or, at its election, by replacement, any defect of material or workmanship which develops within one year after delivery of the instrument to the original purchaser by the Company or by an authorized representative, provided that investigation and factory inspection by the Company discloses that such defect developed under normal and proper use.

The exceptions and conditions mentioned above are the following:

(a) Some components and accessories by their nature are not intended to, and will not, function one year. If any such component or accessory manufactured by the Company and part of the item sold fails to give reasonable service for a reasonable period of time, the Company will, at its election, replace or repair such component or accessory. What constitutes reasonable service and what constitutes a reasonable period of time shall be determined solely by the Company after the Company is in possession of all the facts concerning operating conditions and other pertinent factors and after such component or accessory has been returned to the Company, transportation prepaid.

(b) All instruments claimed defective must be returned to the Company, transportation charges prepaid, and will be returned to the customer with the transportation charges collect, unless the item is found to be defective in which case the Company will pay all transportation charges.

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(d) Except as stated above, the Company makes no warranty, express or implied (either in fact or by operation of law), statutory or otherwise; and, except to the extent stated above, the Company shall have no liability under any warranty, express or implied (either in fact or by operation of law), statutory or otherwise.

(e) The Company expressly disclaims any liability to its customers, dealers, and to users of its products, and to any other person or persons for consequential damages of any kind and from any cause whatsoever arising out of or in any way connected with the manufacture, sale, repair, replacement of, or arising out of or in any way connected with the use of any of its products.

(f) Representations and warranties made by any person, including representatives of the Company, which are inconsistent or in conflict with the terms of this warranty (including but not limited to the limitation of the liability of the Company as set forth above) shall not be binding upon the Company unless reduced to writing and approved by an officer of the Company.

(g) This warranty shall be governed by the laws of the State of California.

Claims for damage in shipment should be filed promptly with the transportation company.

All correspondence concerning the instrument should specify the model and serial number. This information appears on the company nameplate. Any inquiry concerning details of operation, possible modifications, etc., should be addressed to the Sales Department, Electronic Instruments Division of Beckman Instruments, Inc., Richmond, California, 94804.

REPAIR SERVICE

Experienced service personnel and special test equipment are available at the factory to perform any necessary repairs. Every effort will be made to expedite the repair of instruments returned for servicing. Repair work will be performed only upon receipt of a written purchase order or authorization. Instruments to be repaired should be addressed to SERVICE AND REPAIR DEPARTMENT with transportation charges prepaid. Repaired instruments will be returned to the purchaser with transportation charges collect.

The Company reserves the right to make changes in design at any time without incurring any obligation to modify equipment previously purchased to conform to subsequent design changes.

Beckman® INSTRUMENTS, INC.
ELECTRONIC INSTRUMENTS DIVISION
RICHMOND, CALIFORNIA • 94804

CONTENTS

			Page
SEC. 1	INTRODUCTION		
	1.1	General	1-1
	1.2	Operation	1-2
	1.3	Theory of Operation	1-2
SEC. 2	SERVICING AND ADJUSTMENT PROCEDURE		
	2.1	General Instructions	2-1
	2.2	Failure Isolation Procedure	2-1
	2.3	Adjustment of Signal Prescaling Binaries	2-2
	2.4	Adjustment Procedure of CA Modification Amplifier	2-4
SEC. 3	PARTS LIST		

COMPONENT LAYOUT DRAWINGS	Dwg. No.
5 - 330 Mc Amplifier Board	(D 423757)
First Binary Board	(D 423977)
Second Binary Board	(D 423978)
Third Binary Board	(D 423979)
Fourth Binary Board	(D 423980)
Time Base Divider Board	(D 423981)

DIAGRAMS

Model 605B Outline Drawing	(D 431976)
Prescaler Logic Diagram	(B 422119)
Prescaler Schematic Diagram	(C 422578)
Prescaler "CA" Mod. Schematic Diagram	(C 423831)
5 - 330 Mc Amplifier Schematic Diagram	(D 423461)
First Binary Schematic Diagram	(D 423457)
Second Binary Schematic Diagram	(D 423458)
Third Binary Schematic Diagram	(D 423459)
Fourth Binary Schematic Diagram	(D 423460)
Time Base Divider Schematic Diagram	(D 422125)

SECTION 1

INTRODUCTION

1.1 GENERAL SPECIFICATIONS

Table 1-1 lists the specifications for the Model 605B.

Table 1-1. Specifications

Frequency Range:	5 - 400 Mc.
Temperature Range:	0°C to 52°C - Operating. -28°C to +75°C - Storage.
Dynamic Range:	5 - 350 Mc, 0.15 - 1.0 volts rms. 350 - 400 Mc, 0.20 - 1.0 volts rms.
Maximum Input Voltage without Damage:	2 Volts rms.
Voltage Standing Wave Ratio:	5 - 350 Mc, 2.0 maximum. 350 - 400 Mc, 3.0 maximum.
Input Impedance:	50 Ohms nominal.

Table 1-2 lists the added specifications for the "CA" Mod.

Table 1-2. "CA" Mod Specifications

Dynamic Range:	5 -330 Mc, 10 mV - 150 mV (sine wave only).
Maximum Input Voltage without Damage:	1 Volt.
Voltage Standing Wave Ratio:	1.2
Input Impedance:	50 Ohms nominal.

1.2 OPERATION

Frequency Range Extension of Basic Counter:

The frequency range of the basic Model 6146 or 6126 Counter can be extended to 400 Mc by switching the MASTER PLUG-IN switch to PLUG-IN, and the basic counter to EPUT or COUNT functions. The input signal should be connected to the Plug-In input connector when the Plug-In is being used.

Test Function:

The test function is modified when the MASTER PLUG-IN switch is in PLUG-IN because the plug-in divides the time base signal of the basic counter by 16.

A correct indication in the test function when the instrument is used in this fashion is 160 for the 1 microsecond position, 1600 for the 10 microseconds position, etc.

1.3 THEORY OF OPERATION

1.3.1 Input Amplifier: "CA" Modification

This is an eight stage transistor amplifier complete with a self-contained AGC system. The amplifier provides sufficient gain over the band of 5 to 330 Mc to make the sensitivity of the instrument at the input better than 10 millivolts rms.

1.3.2 Signal Prescaling Binaries

Each of the four signal prescaling binaries operate in essentially the same manner. Each has an input common base stage, used for terminating and isolation. Two tunnel diodes are used for shaping the signal to drive the tunnel diode binary. On each board the binary is followed by a transistor amplifier to raise the level of the divided signal and shape it properly for application to the next binary. The fourth binary has a transistor operated diode gate, which blocks the divided signal to the counter when the MASTER PLUG-IN switch is in the MASTER position.

1.3.3 Time Base Board

The time base board is composed of a chain of four transistor binaries, the first of which is driven by the output of the counter's time base shaper circuit. An emitter follower from the fourth binary drives a

Schmitt trigger to generate fast pulses, which are then applied coincidentally to the counter start and stop gates. The binary chain is reset to 15 each time the counter resets, so that the next time base pulse after reset will always result in an output pulse to the counter start gate. These start and stop pulses are coupled to the counter, through two diode gates, which are controlled by the MASTER PLUG-IN switch.

SECTION 2

SERVICING & ADJUSTMENT PROCEDURE

2.1 GENERAL INSTRUCTIONS

2.1.1 There are four adjustments to be made on each of the four signal prescaling binary boards. These adjustments have been carefully made at the factory and should not be changed unless failure occurs and/or component replacement is necessary.

2.1.2 Isolate failures before attempting adjustment. If failure occurs, care should be taken to isolate the failure before attempting to repair the instrument by changing the potentiometer adjustments. If the adjustments are changed unnecessarily, the entire adjustment procedure will have to be retraced.

2.1.3 Access to boards for servicing. Any of the plug-in printed circuit boards may be operated on the extender boards provided with each Beckman counter by following the procedures below. The top covers of the counter and plug-in should be removed for access.

First Binary: In order to operate the first binary on extender boards, remove the input cable from the front panel by removing the front panel nut on the input connector. This is necessary because the cable is too short to reach the board when it is on extenders. The input signal may now be applied to the first binary through the input jack. All adjustments on the first binary board can be performed with the input applied in this manner.

2nd, 3rd, and 4th Binaries: Any one of these three boards may be operated on the extender boards, with the drive coming from the preceding binary. Some adjustments on these boards require the application of an external sinewave signal. This can be done by operating the board in question on the extender boards, with the preceding board removed, and soldering a twisted pair or coax cable to the extender board itself on pins P & S (P is hot side, S is ground) of the B (front) connector.

2.2 FAILURE ISOLATION PROCEDURE

If a failure occurs, it can be isolated to a given board by the following procedure:

2.2.1 Check Test Functions. Check counter and plug-in for correct operation by use of the test functions as detailed in Section 1.2, "Operation". If operation is correct, the Time Base board is functional.

2.2.2 Check Signal Prescaling Binaries. Enter a signal of 0.150 to 1.0 volt rms at some convenient frequency from 5-50 mc. If the correct answer is not indicated, operate each of the boards in succession on extenders starting with the first binary. The output of each binary should be a signal one-half the frequency of the input signal, and approximately 1.2 volts p-p in amplitude (except 3rd binary output which is approximately 0.6 volt p-p). The output of any one of the binary boards can be observed on Pin J of the A (rear) connectors when the board is operated on extenders. This should be done with a high impedance scope probe (ground clip connected to printed circuit board holder for convenience). Note that a +10 volt dc bias also appears on this line, so the scope should be ac coupled. In this manner, the binary which is failing can be found.

2.3 ADJUSTMENT OF SIGNAL PRESCALING BINARIES

Once a failing board has been detected in accordance with Section 2.2 and the faulty component replaced, appropriate adjustments on the repaired board should be carefully made using the procedures of this section. Note that the sections of each binary board where the adjustments are located are identical, and refer to Figure 2-1 for location of potentiometers and test points.

2.3.1 Adjustment of First Binary Board

Setup: Install board on extenders with input cable connector P1 inserted in printed circuit connector J101 (see 2.1.3).

Rough Bias Adjustment: Adjust bias levels at test points A, B, C, and D (see Figure 2-1) to the values shown below using potentiometers A_1, B_1, C_1, & D_1, respectively (use Simpson Model 269 or equivalent):

1) Set point A to 14.00 ± 0.1 volts dc

2) Set point B to 9.0 ± 0.1 volts dc

3) Set point C to 8.0 ± 0.1 volts dc

4) Set point D to 0.00 ± 0.01 volt ac

Sensitivity Adjustment: Applying an input signal of 0.15 - 1.0 volt rms at 50 mc should cause the binary to operate and indicate 50 mc on the counter. Potentiometer A_1 can now be adjusted by slowly lowering the input voltage and changing the setting of A_1 until correct counting occurs at the lowest possible signal level.

Shaper Adjustment: Apply an input signal of 50 mc at a level just sufficient to cause correct counting. Turn potentiometer B_1 counter-clockwise until miscounting occurs, then turn clockwise exactly four (4) turns.

Binary Symmetry Adjustment: Input as in Shaper Adjustment (Sec. 2.3.1). Using Potentiometer C_1, raise and lower the voltage at test point C and determine the range of voltage over which correct operation occurs. This should be approximately over a "window" from -7 volts dc to -9 volts dc. Now set the voltage at test point C very close to the -7 volts dc end of the "window", and adjust C_1 and D_1 in rotation until correct counting is attained at the lowest possible voltage at test point C (i.e., approximately between -7.5 and -7.0 volts dc. When this setting of D_1 is attained, check to see the window is still approximately 2 volts wide. If it is, adjustment of D_1 is complete; go on to the Binary Sensitivity Adjustment. If it is much less than 2 volts wide, the binary is dividing on a spurious mode.

In this event, set the voltage at test point D back to 0.00 ± 0.01mv and repeat the above procedure, taking care to lower the voltage at test point C in small increments because the optimum setting of D_1 is sought. In this manner, a setting of C_1 should be found where a very small offset of D_1 in either direction causes miscounting to occur. Once this setting of D_1 has been attained, check to see that division can still be attained over approximately a 2 volt range at test point C. If it can, proceed to the next adjustment.

Binary Sensitivity Adjustment: Input as in Shaper Adjustment (Section 2.3.1). Turn adjusting screw of potentiometer C_1 clockwise just to the point where miscounting occurs, then turn counter-clockwise exactly four (4) turns. The first binary is now ready to operate in the instrument.

2.3.2 Adjustment of 2nd, 3rd, or 4th Binary Boards. Adjustment procedure for all three of these boards is identical, and is given below:

Setup: The board being adjusted should be placed on the extender boards. Input signals for adjustment should be applied as indicated in paragraph 2.1.3.

Rough Bias Adjustment: Adjust bias levels at test points A, B, C, and D (see figure 2-1) to the values shown below using potentiometers A_1,

B_1, C_1, and D_1 respectively. (Use Simpson Model 269, or equivalent.)

1) Set point A to 12.5 ± 0.1 volts

2) Set point B to 9.0 ± 0.1 volts

3) Set point C to 8.0 ± 0.1 volts

4) Set point D to 0.00 ± 0.01 volt

Sensitivity Adjustment: As in Sensitivity Adjustment (Section 2.3.1) except sensitivity should be approximately 120 mv rms. Indicated frequency on the counter will be 100mc when adjusting 2nd binary in this manner, 200mc for third binary, and 400mc for fourth binary.

Shaper Adjustment: Same as Shaper Adjustment (Section 2.3.1) except turn six turns clockwise instead of four.

Binary Symmetry Adjustment: Identical to Binary Symmetry Adjustment (Section 2.3.1).

Binary Sensitivity Adjustment: Identical to Binary Sensitivity Adjustment (Section 2.3.1).

Fine Adjustment of Shaper: Once the repaired and readjusted 2nd, 3rd, or 4th binary board has been adjusted on the extender board and reinserted in the instrument, the shaper adjustment should be retouched. Turn potentiometer B_1 counter-clockwise until incorrect counting occurs, then turn clockwise exactly four (4) turns. The adjustment of the board is then complete.

2.4 ADJUSTMENT PROCEDURE OF CA MODIFICATION AMPLIFIER

2.4.1 General

There are seven (7) trimming capacitors on this board which have been properly adjusted at the factory to result in the proper frequency response for the overall amplifier. In general the settings of these capacitors should not be changed.

2.4.2 Replacement of Components

The replacement of any one or two transistors or any number of other components (except the trimming capacitors) will not significantly affect

the band pass of the amplifier, and can be accomplished with no difficulty.

2.4.3 Adjusting the Frequency Response of the Amplifier

This procedure should only be followed if replacement of one or more of the trimming capacitors is necessary.

Setup: The amplifier should be operated on the extender boards. The output should be brought out from J202 by means of a cable with an AMP miniature connector (AMP p/n 201143-5) mounted on one end, and a suitable adapter on the other end. It is also necessary that a coaxial capacitor is connected in the output line to prevent shorting out the collector bias of the output transistor. The input should be applied to the amplifier through the normal input cable connector J1 (remove nut from front panel so cable can be used). Actual adjustment of the bandpass is done by means of a sweep generator as follows:

Calibration of Test Setup: The sweep frequency generator and oscilloscope needed for this procedure should be interconnected as shown in Figure 2-2, and adjusted so that a sweep width of 330 mc and 100 mv of deflection (50 mv per division) are displayed as shown in the figure.

Measurement of Amplifier Gain: Once the equipment is calibrated as shown in Figure 2-2 do not change the sweeper and oscilloscope control adjustments, but reconnect the equipment as shown in figure 2-3. When the setup is as shown, the gain at any frequency can be measured by setting the attenuator so that the scope trace at that frequency deflects exactly two divisions. The attenuator setting in db is then equal to the amplifier gain in db at that particular frequency.

Adjustment of Frequency Response of Amplifier: Using the seven adjustable capacitors, adjust the amplifier so that the gain at 330 mc is 29db, and the peak in gain (which occurs around 290 mc) is no higher than 36 db. This is done best by setting all capacitors for lowest capacity (adjust the capacitors so that the lowest possible cutoff frequency is attained), and then slowly adding small increments to all seven capacitors. In other words, turn each of the seven adjustments just slightly away from minimum capacity, note the effect, and then turn all seven adjustments just slightly more, etc. Do this until the desired characteristic is attained. The amplifier is now ready to be replaced in its normal position.

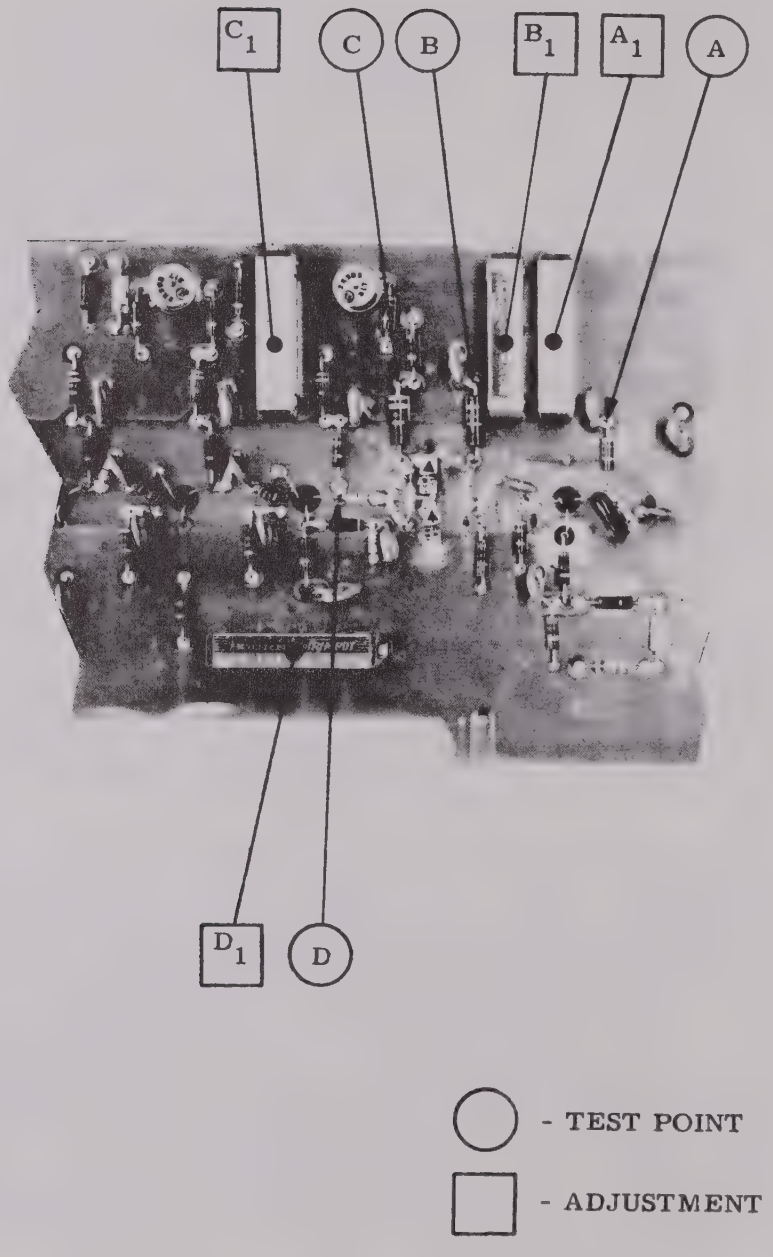


Fig. 2-1. Typical Binary Adjustment and Test Points

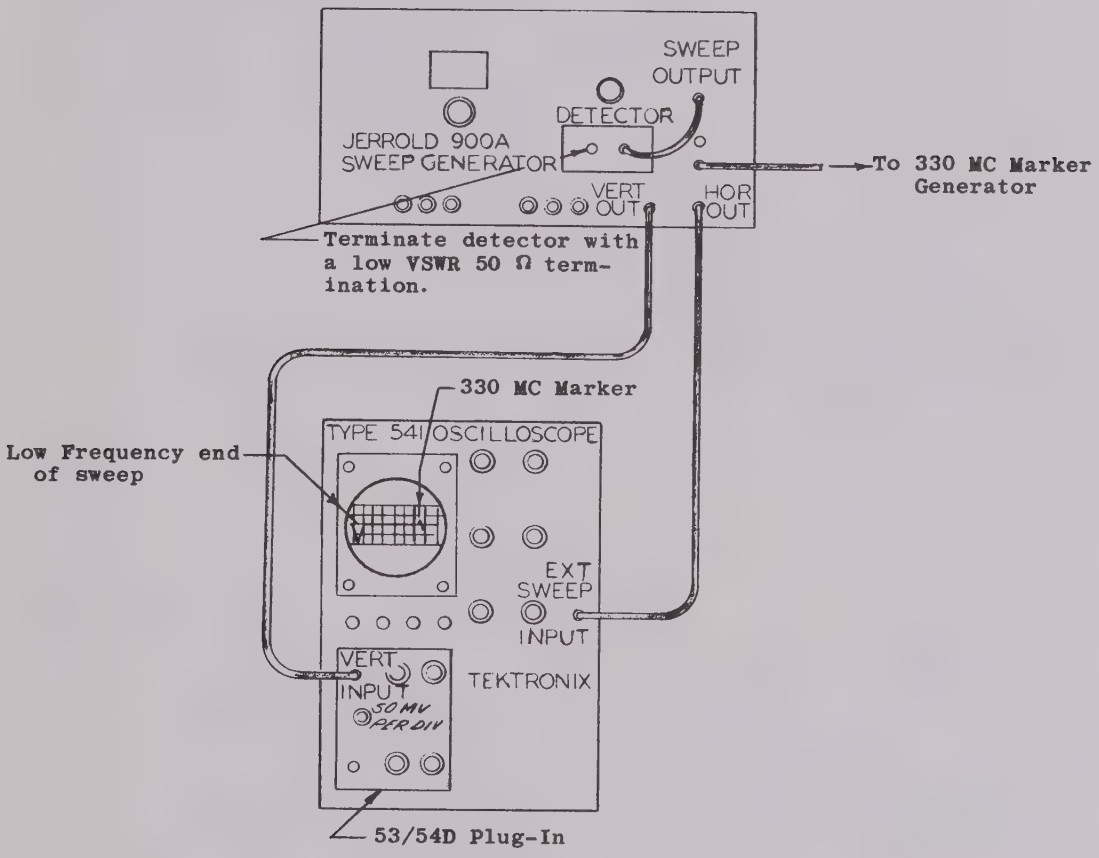


Fig. 2-2. Test Setup for Calibration of Sweep Generator and Oscilloscope

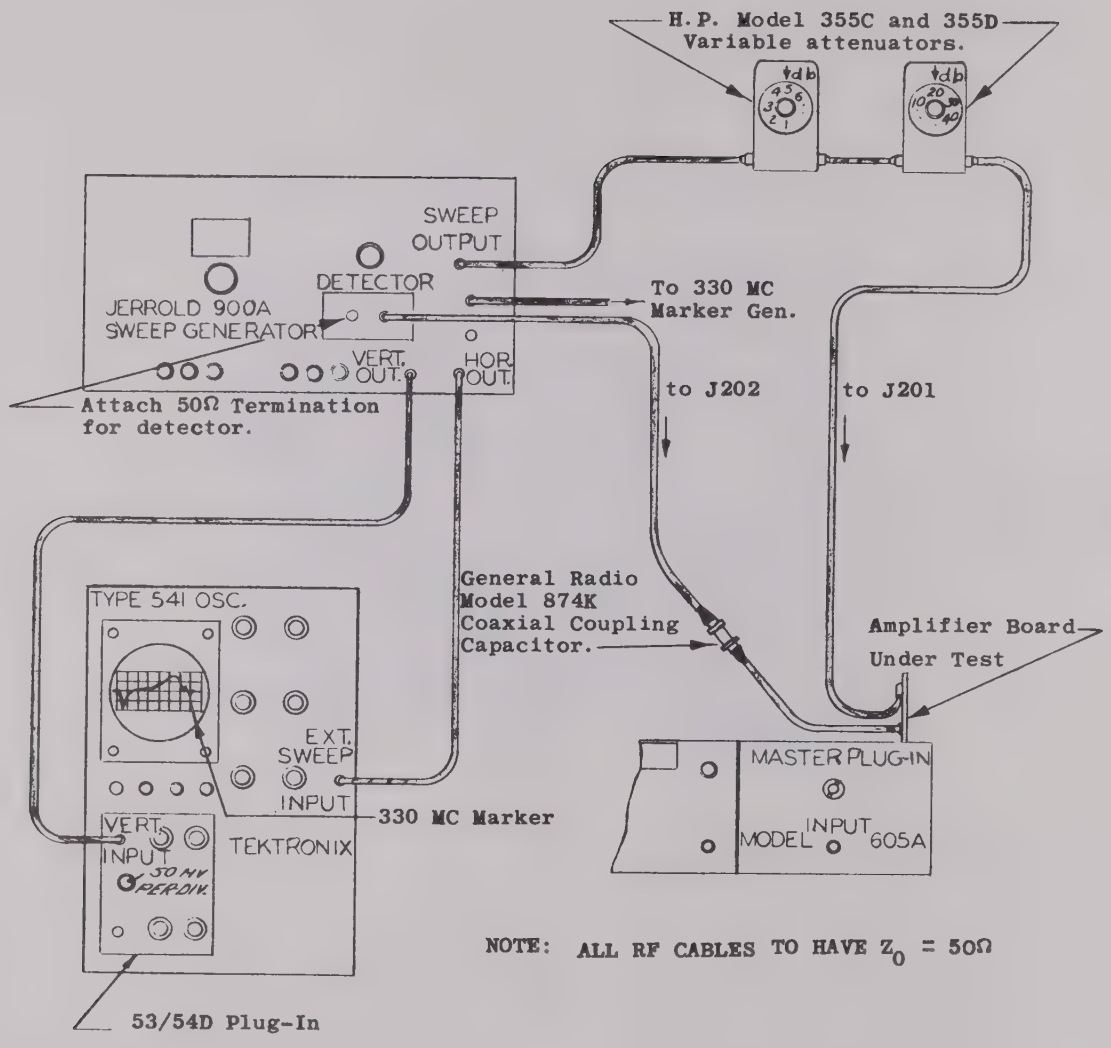


Fig. 2-3. Test Setup for CA Modification Amplifier

SECTION 3

PARTS LIST

The sub-assemblies contained in this parts list are identified as follows:

Beckman Stock No.	Board	Description	Page
887-423757	A1	5 - 330 Mc Amplifier (CA Mod)	5-1
887-423977	A2	First Binary	5-2
887-423978	A3	Second Binary	5-3
887-423979	A4	Third Binary	5-5
887-423980	A5	Fourth Binary	5-6
887-423981	A6	Time Base Divider	5-7
		Miscellaneous	5-8

Detail No.	Beckman Stock No.	Description	Typical Manufacturer & No.	Qty./ Assy.
A1	887-423757	5 - 330 MC AMPLIFIER (CA MOD)	Beckman	1
C1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 19, 21, 23, 25, 27, 29, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48	633-827605	Capacitor, F., Ceramic, 0.01μf, 25V	Sprague 40C387	38
C16, 18, 20, 22, 24, 26, 28	643-839797	Capacitor, V., Ceramic, 2-7pf, 50V	Toyo Type QTL-L	7
C30	637-839756	Capacitor, F., Mica, 7.5pf, 300V, 5%	Elmenco DM15C-7R50D-300V	1
C43	633-811289	Capacitor, F., Ceramic, 4.7pf, 600V	Skottie TCD-4-NPO	1
C44	633-804719	Capacitor, F., Ceramic, 0.001μf, 1000V	Centralab DD103	1
C49, 50	631-802980	Capacitor, F., Electrolytic, 22μf, 25V	Sprague 109D226X00-25C2	2
CR1, 2, 3, 4	755-839721	Diode, Type 1N3666	Hughes	4
CR5, 7	755-827873	Diode, Type DR3530	Sylvania	2
CR6	755-420893	Diode, Germanium, Fast Switching, Special	Beckman	1
J1, 2	697-838675	PG CO-AX Connector	Amphenol 50105-1	2
L1, 2, 3, 4, 5, 6, 7, 8,	795-425004	Inductor, Torroid	Beckman	8
Q1, 2, 3, 4, 5, 6, 7, 8	755-838540	Transistor, Type 2N3563	Fairchild	8
Q9	755-410066	Transistor, Special	Beckman	1
R1, 45	601-823383	Resistor, F., Comp., 22Ω, 1/4W, 5%	Allen Bradley CB2205	2

Detail No.	Beckman Stock No.	Description	Typical Manufacturer & No.	Qty./ Assy.
R2, 4, 5	601-823395	Resistor, F., Comp., 470Ω, 1/4W, 5%	Allen Bradley CB4715	2
R3, 6, 9, 12	601-823379	Resistor, F., Comp., 10Ω, 1/4W, 5%	Allen Bradley CB1005	4
R7, 8, 10, 11, 13, 14, 34, 47	601-822371	Resistor, F., Comp., 390Ω, 1/4W, 5%	Allen Bradley CB3915	8
R15, 33, 49, 50	601-822297	Resistor, F., Comp., 4.7k, 1/4W, 5%	Allen Bradley CB4725	4
R16, 38	601-822326	Resistor, F., Comp., 1.2k, 1/4W, 5%	Allen Bradley CB1225	2
R17, 19, 21, 23, 25, 27, 29, 31	601-823388	Resistor, F., Comp., 56Ω, 1/4W, 5%	Allen Bradley CB5605	8
R18, 20, 22, 24, 26, 28, 30	601-822544	Resistor, F., Comp., 1.8k, 1/4W, 5%	Allen Bradley CB1825	7
R32	601-822527	Resistor, F., Comp., 1.5k, 1/4W, 5%	Allen Bradley CB1525	1
R35, 40, 53, 54	601-823391	Resistor, F., Comp., 150Ω, 1/4W, 5%	Allen Bradley CB1515	4
R36	601-823396	Resistor, F., Comp., 560Ω, 1/4W, 5%	Allen Bradley CB5615	1
R37	601-822308	Resistor, F., Comp., 1k, 1/4W, 5%	Allen Bradley CB1025	1
R39	601-839614	Resistor, F., Comp., 27Ω, 1/8W, 5%	Allen Bradley Type BB	1
R41	601-839610	Resistor, F., Comp., 18Ω, 1/8W, 5%	Allen Bradley Type BB	1
R42	601-839622	Resistor, F., Comp., 56Ω, 1/8W, 5%	Allen Bradley Type BB	1
R43, 44, 46	601-823381	Resistor, F., Comp., 15Ω, 1/4W, 5%	Allen Bradley CB1505	3
R48	601-823387	Resistor, F., Comp., 47Ω, 1/4W, 5%	Allen Bradley CB4705	1
R51, 52	601-823392	Resistor, F., Comp., 180Ω, 1/4W, 5%	Allen Bradley CB1815	2
	864-412958	Insulator, Transistor	Beckman	1
A2	887-423977	FIRST BINARY BOARD	Beckman	1
C1, 6, 8, 9, 13, 14, 15, 16, 17, 19, 24	633-827605	Capacitor, F., Ceramic, 0.01μf, 25V	Sprague 40C387	11
C2, 3, 4, 5, 7, 10, 11, 12	633-815265	Capacitor, F., Ceramic, 0.047μf, 10V	Sprague HY310	8
C18	633-811287	Capacitor, F., Ceramic, 6.8pf, 600V	Skottie TCD-4-NPO	1
C20	637-819443	Capacitor, D. Mica, 15pf, 300V, 5%	Type DM-15	1
C21	633-826644	Capacitor, F. Ceramic, 4700pf, 200V, 20%	Type CK06CW472M	1
C22	633-811289	Capacitor, F. Ceramic, 4.7pf, 600V	Skottie TCD-4-NPO	
C23	633-839578	Capacitor, Feed-Thru, 1000pf	Allen Bradley FW5N-102W	1
CR1	755-857095	Diode	G.E. BD2	1
CR2	755-838025	Diode, Type 1N3600	Fairchild	1
CR3, 9	755-819900	Diode, Tunnel, Type 1N3858	R.C.A.	2
CR4, 7, 8	755-420893	Diode, Germanium, Fast Switching, Special	Beckman	3
CR5, 6	755-839720	Diode, Type TD253B	G.E.	2
CR10	755-818496	Diode, Type 1N751A	Motorola	1

Detail No.	Beckman Stock No.	Description	Typical Manufacturer & No.	Qty./ Assy.
J1	697-838675	Printed Circuit CO-AX Socket	Amphenol 50105-1	1
L1, 2, 3, 4	795-425004	Inductor, Torroid	Beckman	4
L5	795-423974	Inductor, 1/2 Turn	Beckman	1
L6	795-423796	Inductor, 3 Turn, 0.125 Diameter	Beckman	1
Q1	755-419596	Transistor, Special	Beckman	1
Q2, 3, 4, 5	755-838540	Transistor, Type 2N3563	Fairchild	4
Q6, 7	755-099433	Transistor, Type 2N383	Tung Sol	2
R1, 7, 11, 15, 35	601-822371	Resistor, F., Comp., 390Ω, 1/4W, 5%	Allen Bradley CB3915	5
R2, 8, 12	601-822326	Resistor, F., Comp., 1.2k, 1/4W, 5%	Allen Bradley CB1225	3
R3, 36	601-839618	Resistor, F., Comp., 39Ω, 1/8W, 5%	Allen Bradley Type BB	2
R4	601-839610	Resistor, F., Comp., 18Ω, 1/8W, 5%	Allen Bradley Type BB	1
R5, 6, 10	601-823395	Resistor, F., Comp., 470Ω, 1/4W, 5%	Allen Bradley CB4715	3
R9, 13, 17	601-839622	Resistor, F., Comp., 56Ω, 1/8W, 5%	Allen Bradley Type BB	3
R14	601-823396	Resistor, F., Comp., 560Ω, 1/4W, 5%	Allen Bradley CB5615	1
R16	601-822544	Resistor, F., Comp., 1.8k, 1/4W, 5%	Allen Bradley CB1825	1
R18	601-839616	Resistor, F., Comp., 33Ω, 1/8W, 5%	Allen Bradley Type BB	2
R19	601-839624	Resistor, F., Comp., 68Ω, 1/8W, 5%	Allen Bradley Type BB	1
R20, 38, 40	601-822527	Resistor, F., Comp., 1.5k, 1/4W, 5%	Allen Bradley CB1525	3
R21	613-839172	Resistor, Trim-Pot, 10k, 3/4W, 20%	Helipot 75PR10K	1
R22	601-839612	Resistor, F., Comp., 22Ω, 1/8W, 5%	Allen Bradley Type BB	1
R23	601-823384	Resistor, F., Comp., 27Ω, 1/4W, 5%	Allen Bradley CB2705	1
R24	613-839170	Resistor, Trim-Pot, 2k, 3/4W, 20%	Helipot 75PR2K	1
R25	601-822328	Resistor, F., Comp., 2.2k, 1/4W, 5%	Allen Bradley CB2225	1
R26	601-015444	Resistor, F., Comp., 390Ω, 1/2W, 5%	Allen Bradley EB3915	1
R27	601-839620	Resistor, F., Comp., 47Ω, 1/8W, 5%	Allen Bradley Type BB	1
R28	601-079492	Resistor, F., Comp., 560Ω, 1/2W, 5%	Allen Bradley EB5615	1
R29	601-839614	Resistor, F., Comp., 27Ω, 1/8W, 5%	Allen Bradley Type BB	1
R30, 43	601-823379	Resistor, F., Comp., 10Ω, 1/4W, 5%	Allen Bradley CB1005	2
R31	613-838749	Resistor, Trim-Pot, 500Ω, 3/4W, 20%	Helipot 78PR500	2
R33	601-823387	Resistor, F., Comp., 47Ω, 1/4W, 5%	Allen Bradley CB4705	1
R37	601-817735	Resistor, F., Comp., 100Ω, 1/4W, 5%	Allen Bradley CB1015	1
R39, 41	601-822308	Resistor, F., Comp., 1k, 1/4W, 5%	Allen Bradley CB1025	2
R42	601-823394	Resistor, F., Comp., 330Ω, 1/4W, 5%	Allen Bradley CB3315	1
R44	601-839630	Resistor, F., Comp., 150Ω, 1/8W, 5%	Allen Bradley Type BB	1
	864-802650	Insulator, Transistor	Monadnock Mills 294296	2
A3	887-423978	SECOND BINARY BOARD	Beckman	1
C1, 4, 7, 8, 12, 12, 14, 15, 16, 18, 20, 22	633-827605	Capacitor, F., Ceramic, 0.01μf, 25V	Sprague 40C398	12
C2, 3, 5, 6, 9, 10, 11, 23	633-815265	Capacitor, F., Ceramic, 0.047μf, 10V	Sprague HY310	8

Detail No.	Beckman Stock No.	Description	Typical Manufacturer & No.	Qty./ Assy.
C17	633-811287	Capacitor, F., Ceramic, 6.8pf, 600V	Skottie TCD-4-NPO	1
C19	633-839578	Capacitor, F., Ceramic, 1000pf, Feed-Thru	Allen Bradley FW5N-102W	1
C21	633-811289	Capacitor, F., Ceramic, 4.7pf, 600V	Skottie TCD-4-NPO	1
CR1	755-857095	Diode, Type BD-2	G.E.	1
CR2	755-838025	Diode, Type 1N3600	Fairchild	1
CR3	755-818496	Diode, Type 1N751A	Motorola	1
CR4, 5	755-819900	Diode, Tunnel, Type 1N3858	R.C.A.	2
CR6, 7	755-836825	Diode, Type TD253	G.E.	2
CR8, 9, 10	755-420893	Diode, Germanium, Fast Switching, Special	Beckman	3
L1, 2, 3, 4	795-425004	Inductor, Torroid	Beckman	4
L5	795-423974	Inductor, 1/2 Turn	Beckman	1
L6	795-423975	Inductor, 3 Turn, 0.156 Diameter	Beckman	1
Q1, 2, 3, 4	755-419596	Transistor, Special, Type 2N2369	Beckman	4
Q5	755-838540	Transistor, Type 2N3563	Fairchild	1
Q6, 7	755-099433	Transistor, Type 2N383	Tung Sol	2
R1, 7, 11, 15	601-822371	Resistor, F., Comp., 390Ω, 1/4W, 5%	Allen Bradley CB3915	4
R2, 8, 12	601-822326	Resistor, F., Comp., 1.2k, 1/4W, 5%	Allen Bradley CB1225	3
R3, 38	601-839618	Resistor, F., Comp., 39Ω, 1/8W, 5%	Allen Bradley Type BB	2
R4, 6, 10	601-823395	Resistor, F., Comp., 470Ω, 1/4W, 5%	Allen Bradley CB4715	3
R5	601-839610	Resistor, F., Comp., 18Ω, 1/8W, 5%	Allen Bradley Type BB	1
R9, 13, 20	601-839622	Resistor, F., Comp., 56Ω, 1/8W, 5%	Allen Bradley Type BB	3
R14	601-823396	Resistor, F., Comp., 560Ω, 1/4W, 5%	Allen Bradley CB5615	1
R16	601-822544	Resistor, F., Comp., 1.8k, 1/4W, 5%	Allen Bradley CB1825	1
R17, 37, 40	601-822527	Resistor, F., Comp., 1.5k, 1/4W, 5%	Allen Bradley CB1525	3
R18	613-839172	Resistor, Trim-Pot, 10k, 3/4W, 20%	Helipot 75PR10K	1
R19	601-838612	Resistor, F., Comp., 22Ω, 1/8W, 5%	Allen Bradley Type BB	1
R21, 31	601-838616	Resistor, F., Comp., 33Ω, 1/8W, 5%	Allen Bradley Type BB	2
R23	613-839170	Resistor, Trim-Pot, 2k, 3/4W, 20%	Helipot 75PR2K	1
R24	601-822328	Resistor, F., Comp., 2.2k, 1/4W, 5%	Allen Bradley CB2225	1
R25	601-015444	Resistor, F., Comp., 390Ω, 1/2W, 5%	Allen Bradley EB3915	1
R26	601-839620	Resistor, F., Comp., 47Ω, 1/8W, 5%	Allen Bradley Type BB	1
R27, 33	613-838749	Resistor, Trim-Pot, 500Ω, 3/4W, 20%	Helipot 78PR500	2
R28	601-079492	Resistor, F., Comp., 560Ω, 1/2W, 5%	Allen Bradley EB5615	1
R29	601-839614	Resistor, F., Comp., 27Ω, 1/8W, 5%	Allen Bradley Type BB	1
R30, 43	601-823379	Resistor, F., Comp., 10Ω, 1/4W, 5%	Allen Bradley CB1005	2
R32	601-823389	Resistor, F., Comp., 68Ω, 1/4W, 5%	Allen Bradley CB6805	1
R34	601-822369	Resistor, F., Comp., 680Ω, 1/4W, 5%	Allen Bradley CB6815	1
R35	601-817735	Resistor, F., Comp., 100Ω, 1/4W, 5%	Allen Bradley CB1015	1
R36, 41	601-822308	Resistor, F., Comp., 1k, 1/4W, 5%	Allen Bradley CB1025	2
R39	601-823384	Resistor, F., Comp., 27Ω, 1/4W, 5%	Allen Bradley CB2705	1
R42	601-823394	Resistor, F., Comp., 330Ω, 1/4W, 5%	Allen Bradley CB3315	1
	864-802650	Insulator, Transistor	Monadnock Mills 294296	2

Detail No.	Beckman Stock No.	Description	Typical Manufacturer & No.	Qty./ Assy.
A4	887-423979	THIRD BINARY BOARD	Beckman	1
C1	637-824012	Capacitor, F., Mica, 47pf, 300V, 5%	Electromotive DM16-E470J-300V	1
C2	633-815265	Capacitor, F., Ceramic, 0.047μf, 12V	Sprague HY310	1
C3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17	633-827605	Capacitor, F., Ceramic, 0.01μf, 25V	Sprague 40C387	13
C12	633-811287	Capacitor, F., Ceramic, 6.8pf, 600V	Skottie TCD-4-NPO	1
C16	633-811289	Capacitor, F., Ceramic, 4.7pf, 600V	Skottie TCD-4-NPO	1
CR1	755-838025	Diode, Type 1N3600	Fairchild	1
CR2, 3	755-819900	Diode, Tunnel Type 1N3858	R.C.A.	2
CR4	755-818496	Diode, Type 1N751A	Motorola	1
CR5, 6	755-836825	Diode, Type TD253	G.E.	2
CR7, 8, 9	755-420893	Diode, Germanium, Fast Switching, Special	Beckman	3
L1	795-423974	Inductor, 1/2 Turn	Beckman	1
L2	795-423795	Inductor, 3 Turn, 0.156 Diameter	Beckman	1
Q1, 2, 3, 4	755-419596	Transistor, Type 2N2369, Special	Beckman	4
Q5, 6	755-099433	Transistor, Type 2N383	Tung Sol	2
R1	601-822326	Resistor, F., Comp., 1.2k, 1/4W, 5%	Allen Bradley CB1225	1
R8	601-823387	Resistor, F., Comp., 47Ω, 1/4W, 5%	Allen Bradley CB4705	1
R3, 30	601-822369	Resistor, F., Comp., 680Ω, 1/4W, 5%	Allen Bradley CB6815	2
R4, 7, 8	601-822375	Resistor, F., Comp., 82Ω, 1/4W, 5%	Allen Bradley CB8205	3
R5	601-823384	Resistor, F., Comp., 27Ω, 1/4W, 5%	Allen Bradley CB2705	1
R6	601-823395	Resistor, F., Comp., 470Ω, 1/4W, 5%	Allen Bradley CB4715	1
R9, 10	601-822371	Resistor, F., Comp., 390Ω, 1/4W, 5%	Allen Bradley CB3915	2
R11	601-822544	Resistor, F., Comp., 1.8k, 1/4W, 5%	Allen Bradley CB1825	1
R12	601-839622	Resistor, F., Comp., 56Ω, 1/8W, 5%	Allen Bradley Type BB	1
R13	601-823396	Resistor, F., Comp., 560Ω, 1/4W, 5%	Allen Bradley CB5615	1
R14	613-839172	Resistor, Trim-Pot, 10k, 3/4W, 20%	Helipot 75PR10K	1
R15, 34, 35	601-822527	Resistor, F., Comp., 1.5k, 1/4W, 5%	Allen Bradley CB1525	3
R16	601-839612	Resistor, F., Comp., 22Ω, 1/8W, 5%	Allen Bradley Type BB	1
R17, 27	601-839616	Resistor, F., Comp., 33Ω, 1/8W, 5%	Allen Bradley Type BB	2
R18	601-839624	Resistor, F., Comp., 68Ω, 1/8W, 5%	Allen Bradley Type BB	1
R19	613-839170	Resistor, Trim-Pot, 2k, 3/4W, 20%	Helipot 75PR2K	1
R20	601-822328	Resistor, F., Comp., 2.2k, 1/4W, 5%	Allen Bradley CB2225	1
R21	601-015444	Resistor, F., Comp., 390Ω, 1/2W, 5%	Allen Bradley EB3915	1
R22	601-839620	Resistor, F., Comp., 47Ω, 1/8W, 5%	Allen Bradley Type BB	1
R23, 29	613-838749	Resistor, Trim-Pot, 500Ω, 3/4W, 20%	Helipot 78PR500	2
R24	601-079492	Resistor, F., Comp., 560Ω, 1/2W, 5%	Allen Bradley EB5615	1
R25	601-839614	Resistor, F., Comp., 27Ω, 1/8W, 5%	Allen Bradley Type BB	1
R26, 38	601-823379	Resistor, F., Comp., 10Ω, 1/4W, 5%	Allen Bradley CB1005	2
R28	601-823389	Resistor, F., Comp., 68Ω, 1/4W, 5%	Allen Bradley CB6805	1

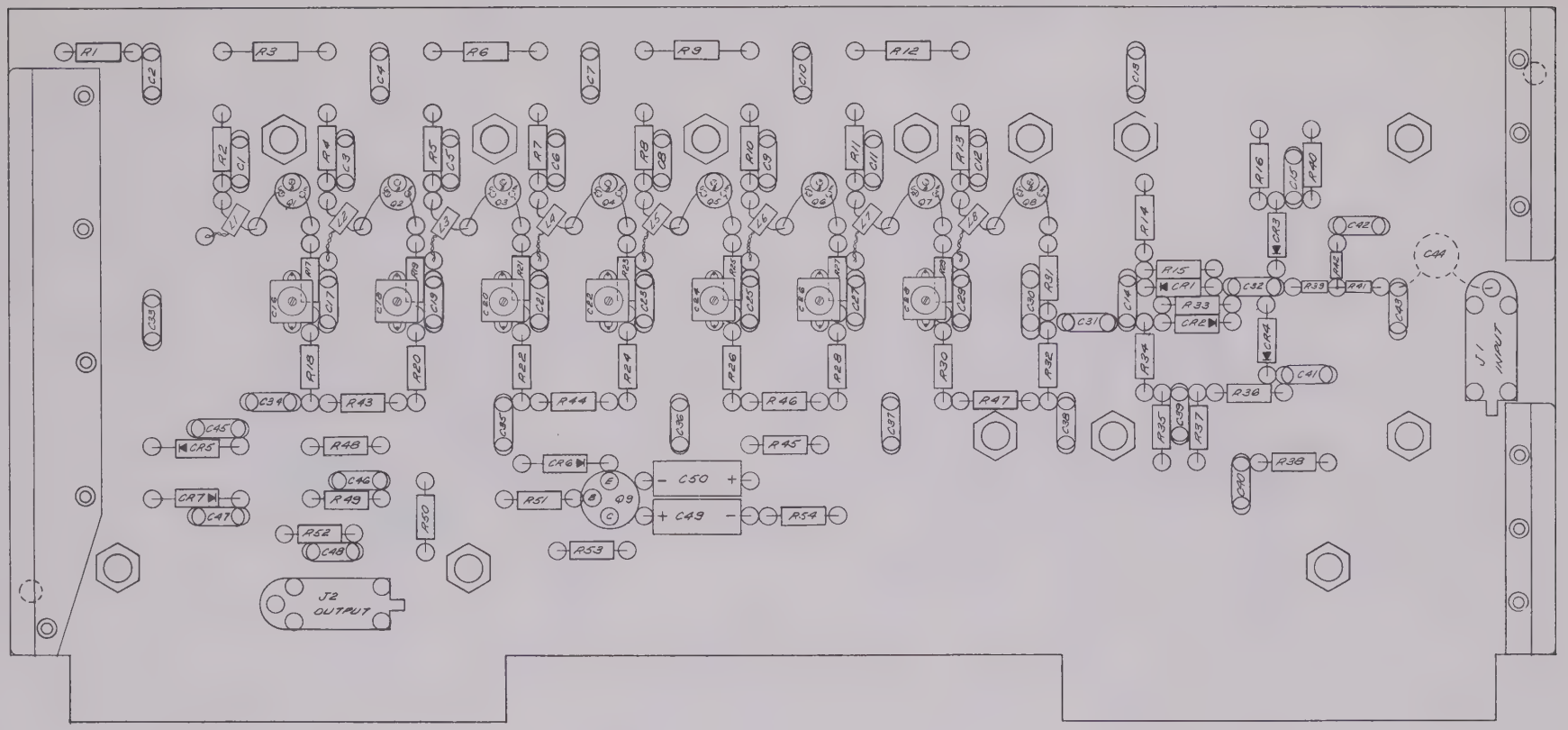
Detail No.	Beckman Stock No.	Description	Typical Manufacturer & No.	Qty./ Assy.
R31	601-839618	Resistor, F., Comp., 39Ω, 1/8W, 5%	Allen Bradley Type BB	1
R32	601-817735	Resistor, F., Comp., 100Ω, 1/4W, 5%	Allen Bradley CB1015	1
R33	601-822308	Resistor, F., Comp., 1k, 1/4W, 5%	Allen Bradley CB1025	2
R37	601-823394	Resistor, F., Comp., 330Ω, 1/4W, 5%	Allen Bradley CB3315	1
	864-802650	Insulator, Transistor	Monadnock Mills 294296	2
A5	887-423980	FOURTH BINARY BOARD	Beckman	1
C1, 4	633-815265	Capacitor, F. Ceramic, 0.047μf, 12V	Sprague HY310	2
C2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 18	633-827605	Capacitor, F., Ceramic, 0.01μf, 25V	Sprague 40C398	14
C13	633-811287	Capacitor, F., Ceramic, 6.8pf, 600V	Skottie TCD-4-NPO	1
C17	633-811289	Capacitor, F., Ceramic, 4.7pf, 600V	Skottie TCD-4-NPO	1
CR1	755-839721	Diode, Type 1N3666	Hughes	1
CR2	755-431324	Diode, Silicon, Special	Beckman	1
CR3	755-838025	Diode, Type 1N3600	Fairchild	1
CR4, 5	755-819900	Diode, Tunnel, Type 1N3858	R.C.A.	2
CR6	755-420893	Diode, Germanium, Fast Switching, Special	Beckman	3
CR7, 8	755-837825	Diode, Type TD253	G.E.	2
CR11	755-818496	Diode, Type 1N751A	Motorola	1
L1	795-423975	Inductor, 3 Turn, 0.156 Diameter	Beckman	1
L2	795-423974	Inductor, 1/2 Turn	Beckman	1
Q1	755-415078	Transistor, Special	Beckman	1
Q2, 3, 4, 5	755-419596	Transistor, Special	Beckman	4
Q6	755-099433	Transistor, Type 2N383	Tung Sol	2
R1	601-822531	Resistor, F., Comp., 33k, 1/4W, 5%	Allen Bradley CB3335	1
R2, 3, 26, 39	601-822308	Resistor, F., Comp., 1k, 1/4W, 5%	Allen Bradley CB1025	4
R4	601-822324	Resistor, F., Comp., 10k, 1/4W, 5%	Allen Bradley CB1035	2
R5, 36	601-822369	Resistor, F., Comp., 680Ω, 1/4W, 5%	Allen Bradley CB6815	2
R6	601-822297	Resistor, F., Comp., 4.7k, 1/4W, 5%	Allen Bradley CB4725	1
R7, 43	601-822328	Resistor, F., Comp., 2.2k, 1/4W, 5%	Allen Bradley CB2225	2
R8, 13, 14	601-822375	Resistor, F., Comp., 82Ω, 1/4W, 5%	Allen Bradley CB8205	3
R9	601-823384	Resistor, F., Comp., 27Ω, 1/4W, 5%	Allen Bradley CB2705	1
R10	601-822326	Resistor, F., Comp., 1.2k, 1/4W, 5%	Allen Bradley CB1225	1
R11	601-823381	Resistor, F., Comp., 15Ω, 1/4W, 5%	Allen Bradley CB1505	1
R12	601-823395	Resistor, F., Comp., 470Ω, 1/4W, 5%	Allen Bradley CB4715	1
R15, 20	601-822371	Resistor, F., Comp., 390Ω, 1/4W, 5%	Allen Bradley CB3915	2
R16	601-823396	Resistor, F., Comp., 560Ω, 1/4W, 5%	Allen Bradley CB5615	1
R17, 25, 40	601-822527	Resistor, F., Comp., 1.5k, 1/4W, 5%	Allen Bradley CB1525	3
R18	613-839172	Resistor, Trim-Pot, 10k, 3/4W, 20%	Helipot 75PR10K	1

Detail No.	Beckman Stock No.	Description	Typical Manufacturer & No.	Qty./ Assy.
R19	601-839612	Resistor, F., Comp., 22Ω, 1/8W, 5%	Allen Bradley Type BB	1
R21	601-822544	Resistor, F., Comp., 1.8k, 1/4W, 5%	Allen Bradley CB1825	1
R22	601-839622	Resistor, F., Comp., 56Ω, 1/8W, 5%	Allen Bradley Type BB	1
R23, 33	601-839616	Resistor, F., Comp., 33Ω, 1/8W, 5%	Allen Bradley Type BB	2
R24	601-839624	Resistor, F., Comp., 68Ω, 1/8W, 5%	Allen Bradley Type BB	1
R27	601-015444	Resistor, F., Comp., 390Ω, 1/2W, 5%	Allen Bradley EB3915	1
R28	601-839620	Resistor, F., Comp., 47Ω, 1/8W, 5%	Allen Bradley Type BB	1
R29, 35	613-838749	Resistor, Trim-Pot, 500Ω, 3/4W, 20%	Helipot 78PR500	2
R30	601-079492	Resistor, F., Comp., 560Ω, 1/2W, 5%	Allen Bradley EB5615	1
R31	601-839614	Resistor, F., Comp., 27Ω, 1/8W, 5%	Allen Bradley Type BB	1
R32, 44	601-823379	Resistor, F., Comp., 10Ω, 1/4W, 5%	Allen Bradley CB1005	2
R34	601-823389	Resistor, F., Comp., 68Ω, 1/4W, 5%	Allen Bradley CB6805	1
R37	601-839618	Resistor, F., Comp., 39Ω, 1/8W, 5%	Allen Bradley Type BB	1
R38	601-817735	Resistor, F., Comp., 100Ω, 1/4W, 5%	Allen Bradley CB1015	1
R41	601-823394	Resistor, F., Comp., 330Ω, 1/4W, 5%	Allen Bradley CB3315	1
R42	613-839170	Resistor, Trim-Pot, 2k, 3/4W, 20%	Helipot 75PR2K	1
	864-802650	Insulator, Transistor	Monadnock Mills 294926	3
A6	887-423981	TIME BASE DIVIDER BOARD	Beckman	1
C1, 14, 18	633-827605	Capacitor, F., Ceramic, 0.01μf, 25V	Sprague 40C398	3
C2, 3	637-824012	Capacitor, F., Mica, 47pf, 300V, 5%	Electromotive DM16E470J-300V	2
C4, 7, 10	637-824008	Capacitor, F., Mica, 22pf, 300V, 5%	Electromotive DM16C220J-300V	3
C5, 6, 8, 9, 11, 12	637-824014	Capacitor, F., Mica, 68pf, 300V, 5%	Electromotive DM16E680J-300V	6
C13	637-824018	Capacitor, F., Mica, 150pf, 300V, 5%	Electromotive DM16E151J-300V	1
C15	637-824004	Capacitor, F., Mica, 10pf, 300V, 5%	Electromotive DM16C100J-300V	1
C16, 17	637-824011	Capacitor, F., Mica, 39pf, 300V, 5%	Electromotive DM16E390J-300V	2
CR1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13	755-420893	Diode, Germanium, Fast Switching, Special	Beckman	13
CR14	755-431324	Diode, Silicon, 75PIV, 10ma, 1V min. fwd.	Beckman	4
Q1, 2	755-824880	Transistor, Type 2N960	Motorola	2
Q3, 4, 5, 6, 7, 8,	755-817587	Transistor, Type 2N968	Motorola	6
Q9	755-419596	Transistor, Special	Beckman	1
Q10, 11	755-817811	Transistor, Type 2N961	Motorola	2
R1, 2, 8, 9, 14, 16, 17, 22, 24, 25, 30	601-822527	Resistor, F., Comp., 1.5k, 1/4W, 5%	Allen Bradley CB1525	11

Detail No.	Beckman Stock No.	Description	Typical Manufacturer & No.	Qty./ Assy.
R3, 4, 5, 13, 21, 29	601-822299	Resistor, F., Comp., 1.5k, 1/4W, 5%	Allen Bradley CB6825	6
R6, 7, 12, 15, 20, 23, 28, 31 41, 42	601-822301	Resistor, F., Comp., 15k, 1/4W, 5%	Allen Bradley CB1535	10
R10, 11, 18, 19 26, 27	601-823397	Resistor, F., Comp., 5.6k, 1/4W, 5%	Allen Bradley CB5625	6
R32	601-823379	Resistor, F., Comp., 10Ω, 1/4W, 5%	Allen Bradley CB1005	1
R33	601-822327	Resistor, F., Comp., 220Ω, 1/4W, 5%	Allen Bradley CB2215	1
R34	601-822544	Resistor, F., Comp., 1.8k, 1/4W, 5%	Allen Bradley CB1825	1
R35, 38	601-822306	Resistor, F., Comp., 820Ω, 1/4W, 5%	Allen Bradley CB4725	2
R36	601-822297	Resistor, F., Comp., 4.7k, 1/4W, 5%	Allen Bradley CB4725	1
R37	601-817735	Resistor, F., Comp., 100Ω, 1/4W, 5%	Allen Bradley CB1015	1
R39	601-822295	Resistor, F., Comp., 2.7k, 1/4W, 5%	Allen Bradley CB2725	1
R40	601-822326	Resistor, F., Comp., 1.2k, 1/4W, 5%	Allen Bradley CB1225	1
	864-412958	Transistor Pad	Beckman	11

MISCELLANEOUS PARTS

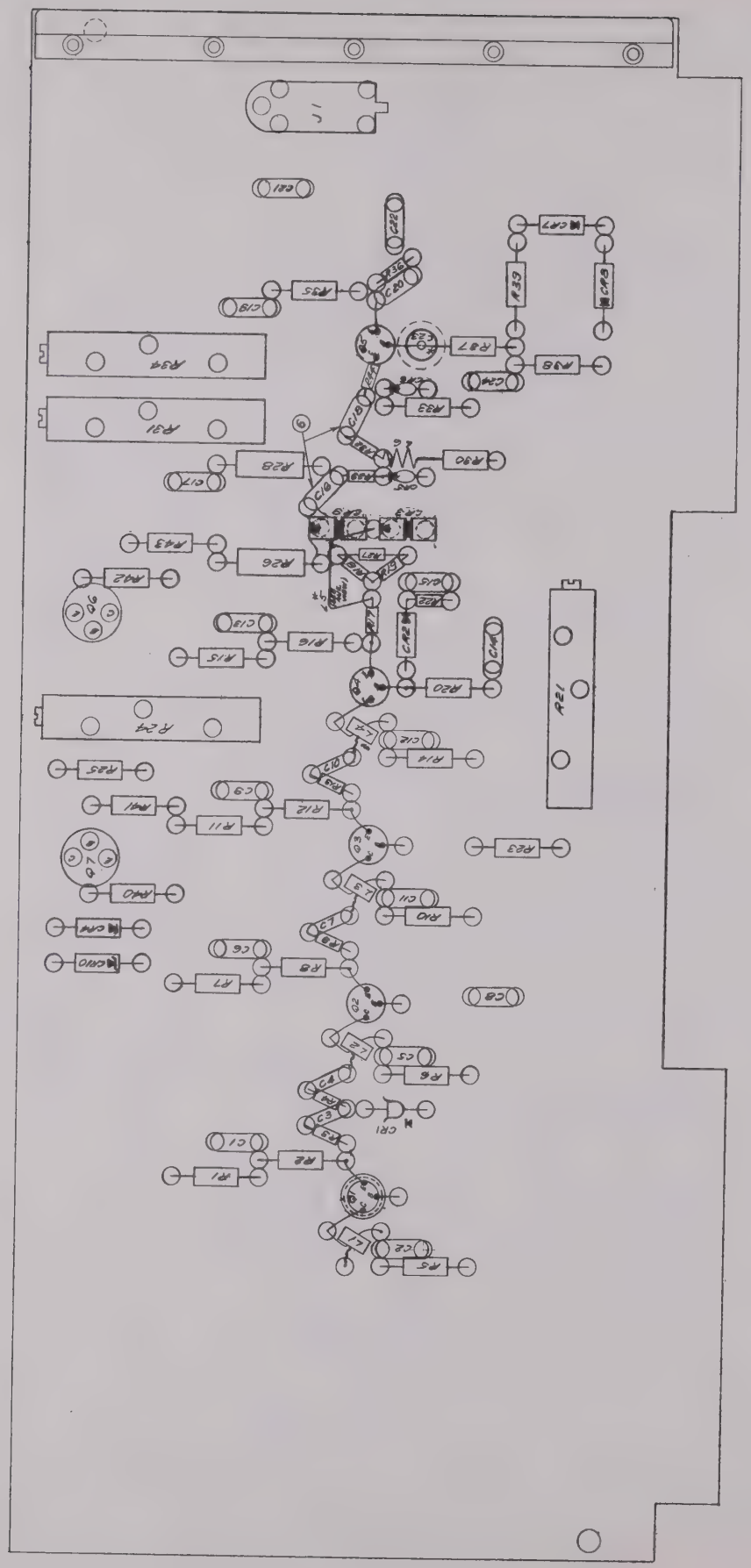
C1, 2	637-819448	Capacitor, 100pf, 500V, 5%	Electromotive DM15E101J-300V	2
J1	670-839719	Connector, BNC, CO-AX, 50Ω, Bulkhead Jack-Kit for RG/U-188 Cable	Amphenol 2-330060-1	1
P1	697-839719	Miniature CO-AX Pin	Amphenol 201143-5	1
P2	697-825924	Ferrule for above pin	Amphenol 328666	1
P6, 7	672-824945	Connector, 50-Pin, Male	Amphenol 57-10500	
S1	711-806116	Switch, Rotary, 3P-2-5 Pos.	Centrlab PA2007	1
XA1A, B, XA6A, B	680-824871	Connector, 15-Pin, Single	Cinch 250-15-30-170	4
XA2A, B, XA3A, B thru XA5A, B	680-824115	Connector, 15-Pin, Double	Cinch 251-15-30-160	8
	325-413171	Knob, for Rotary Switch	Beckman	1



5 - 330 MC AMPLIFIER BOARD COMPONENT LAYOUT

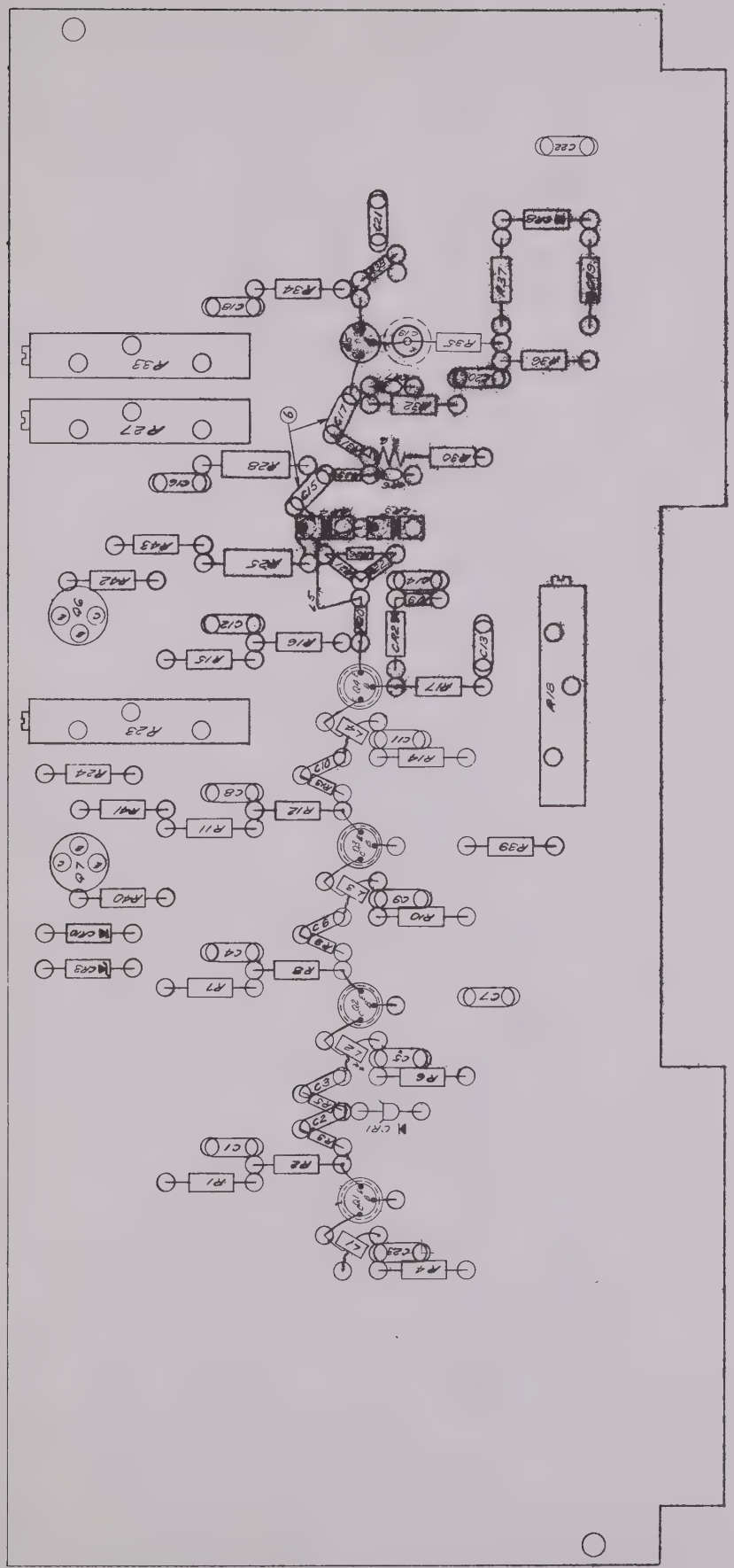
Model 605B
D 423757-Rev. B
January 1967

Beckman



FIRST BINARY BOARD COMPONENT LAYOUT

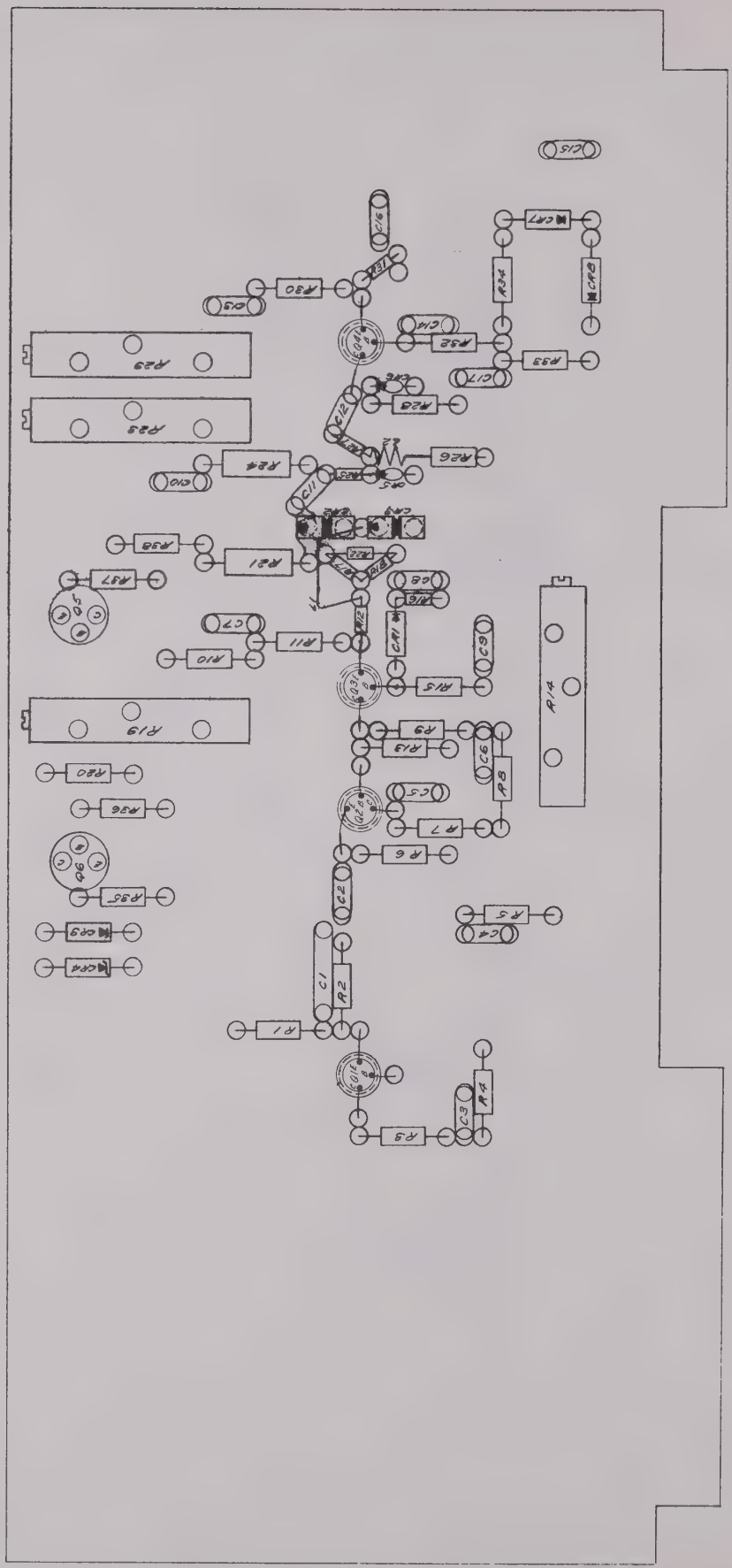
Beckman®



SECOND BINARY BOARD COMPONENT LAYOUT

Model 605B
D423978-Rev. B
January 1967

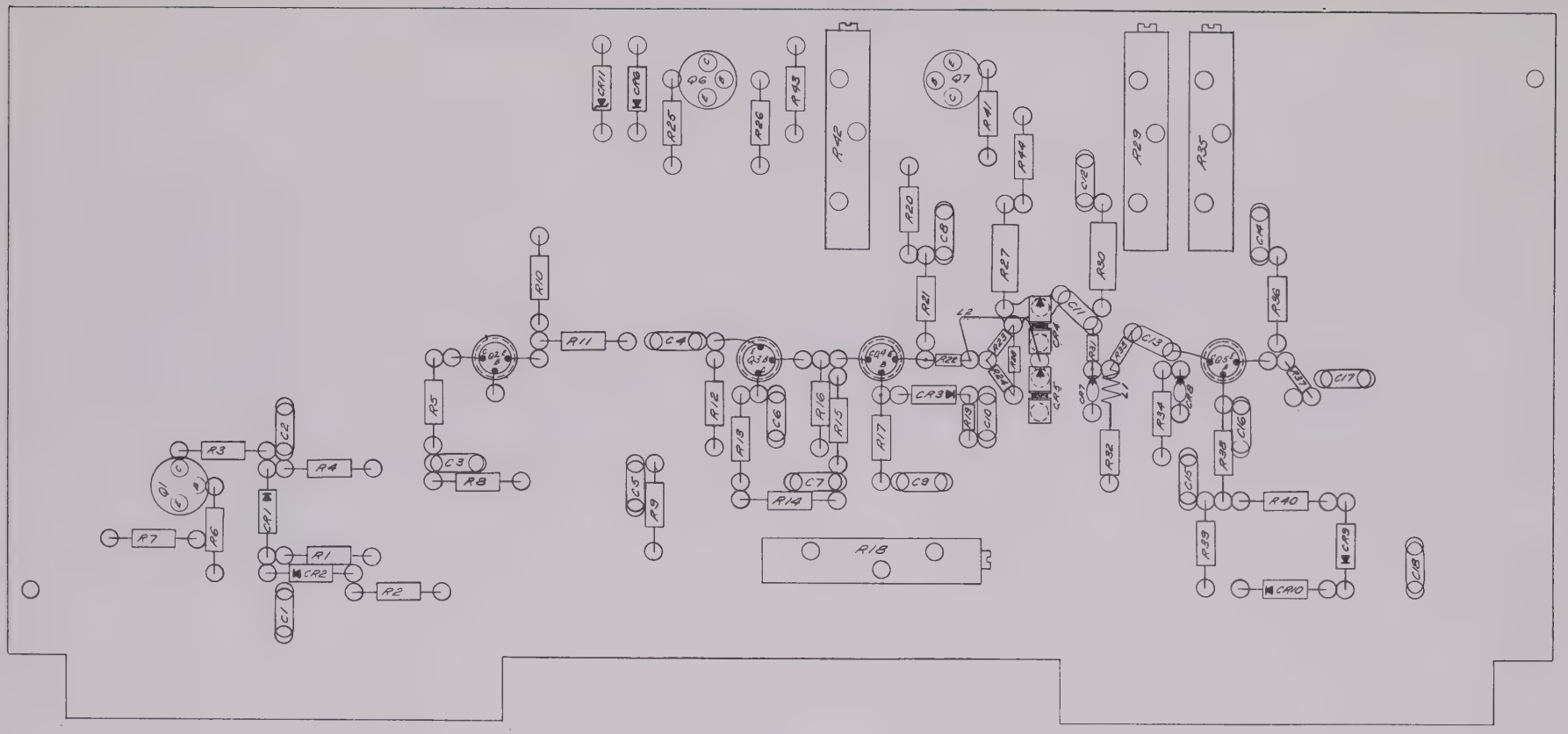
Beckman®



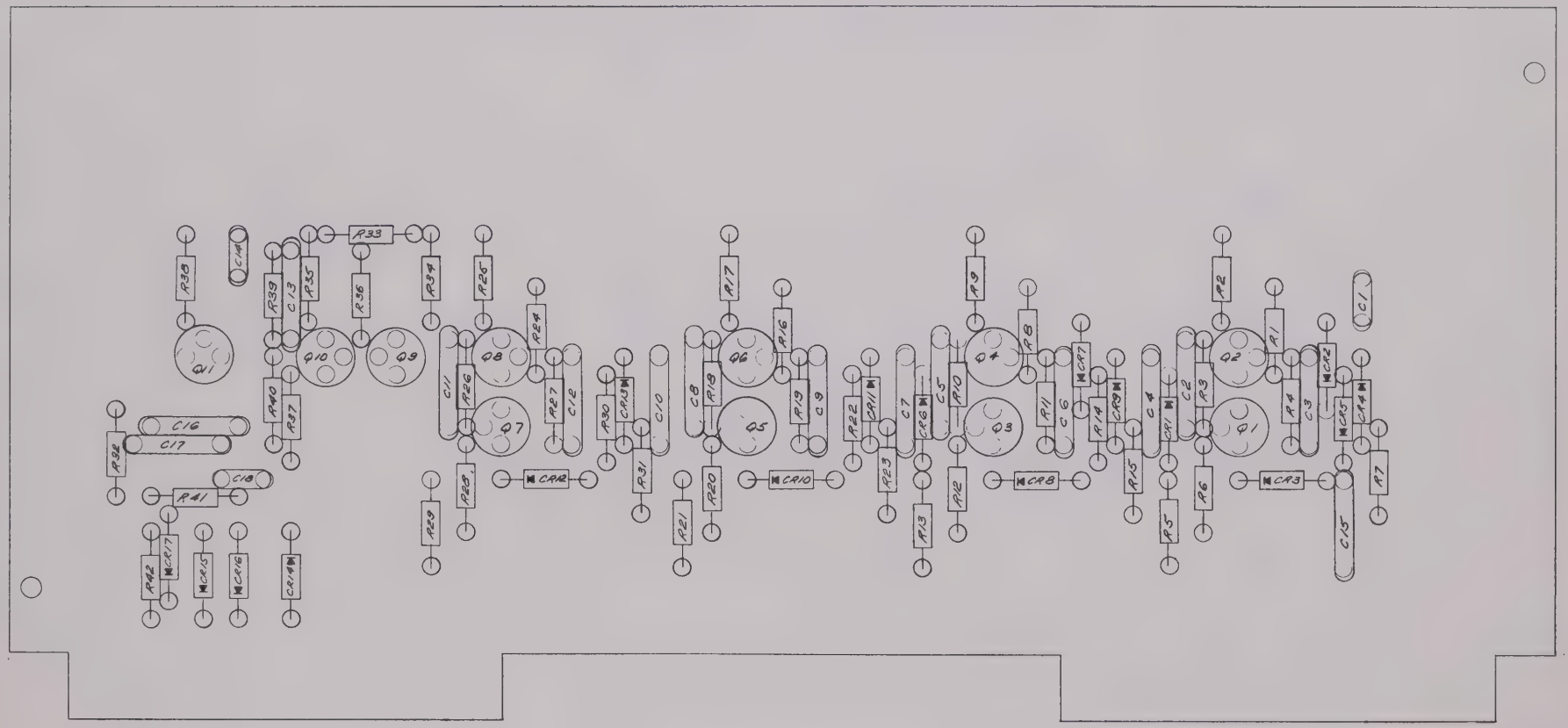
THIRD BINARY BOARD COMPONENT LAYOUT

Model 605B
D 423979-Rev. B
January 1967

Beckman



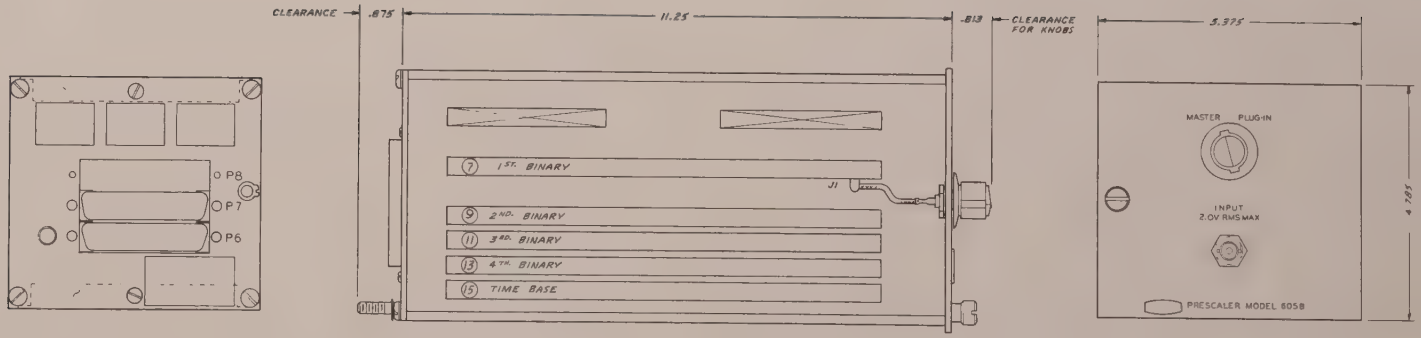
FOURTH BINARY BOARD COMPONENT LAYOUT.



TIME BASE DIVIDER BOARD COMPONENT LAYOUT

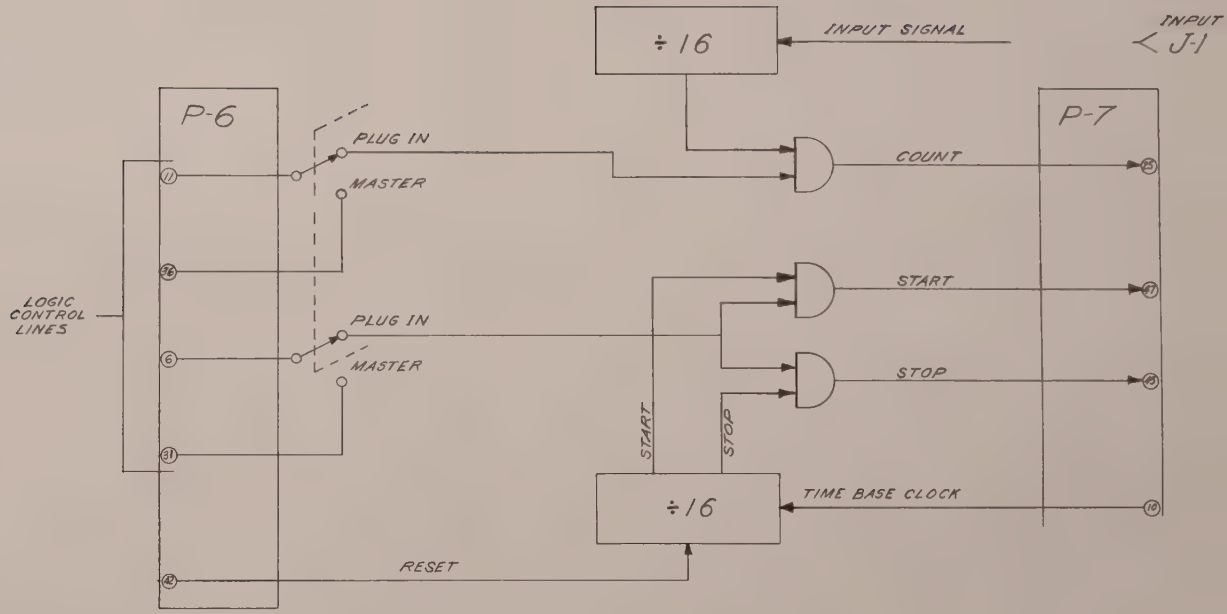
Beckman

MODEL 605B
OUTLINE DRAWING



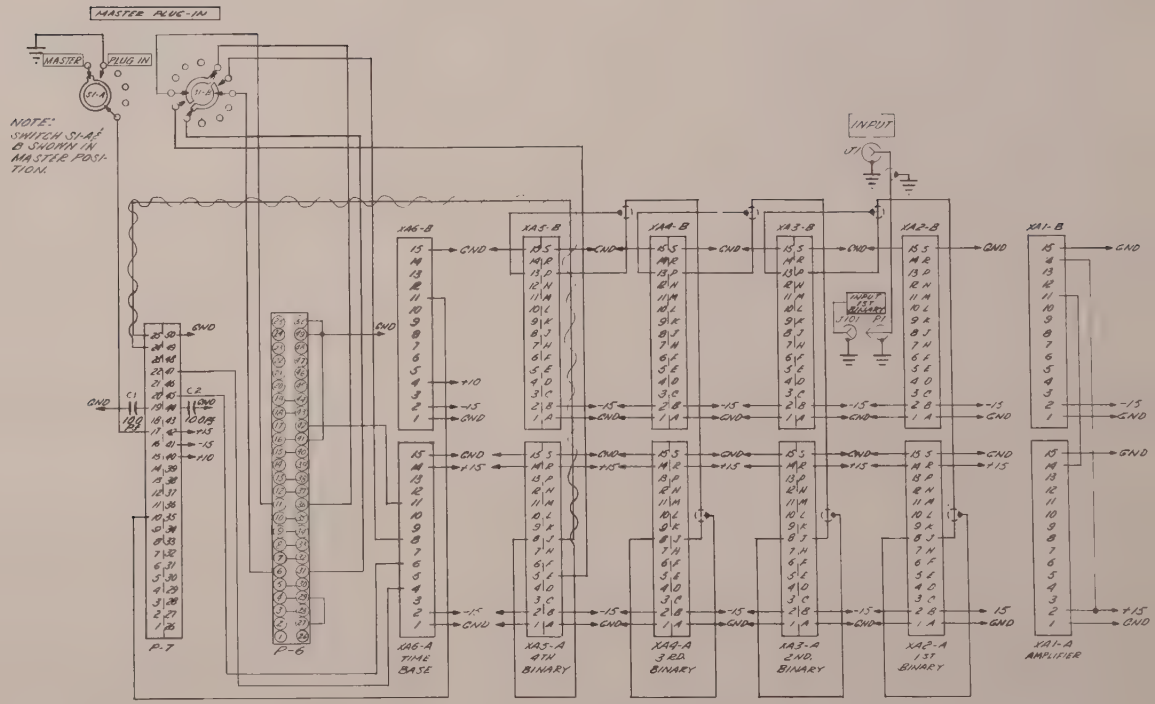
Beckman®

PRESCALER
LOGIC DIAGRAM



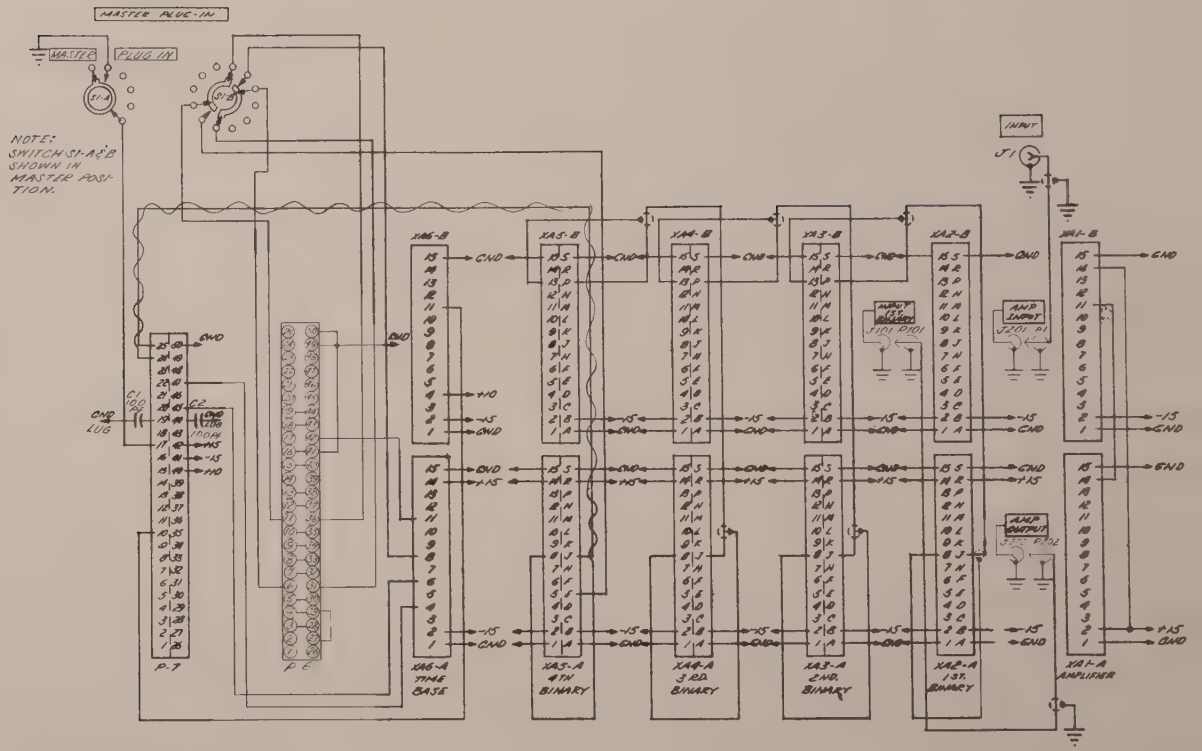
Model 6058
B 422119-Rev SA
March 1985
Beckman

PRESCALER
SCHEMATIC DIAGRAM



NOTE:
ORIENTATION OF XA1-THRU-XA6 SHOWN AS VIEWED FROM BOTTOM OF INSTRUMENT.

PRESCALER "CA" MOD.
SCHEMATIC DIAGRAM

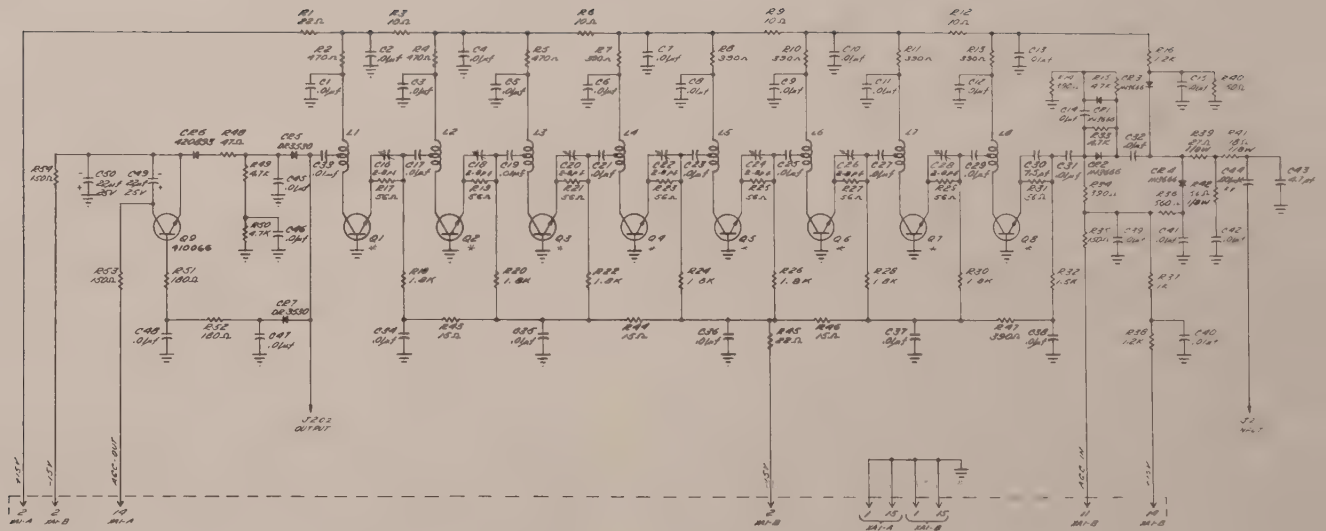


NOTE:
ORIENTATION OF XA1-THRU-XA6 SHOWN
AS VIEWED FROM BOTTOM OF INSTRU-
MENT.

Model 6058
C 42363-Rev SA
July 1965

Beckman

5 - 330 MC AMPLIFIER
SCHEMATIC DIAGRAM

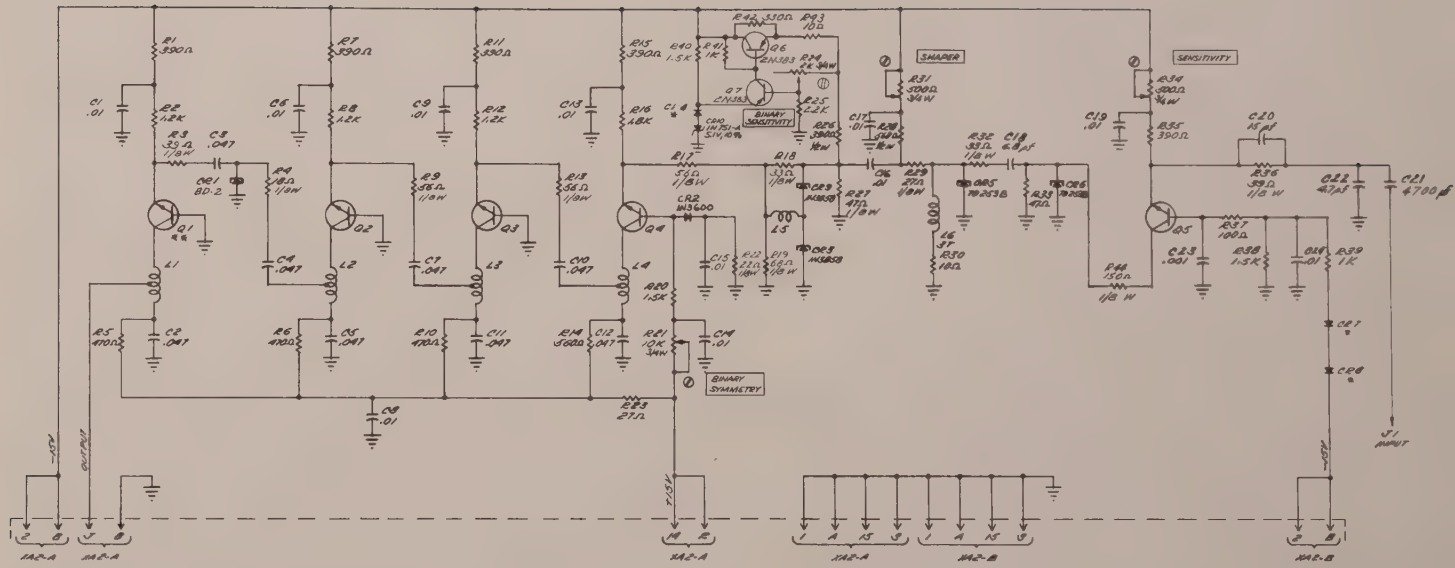


NOTE:
1) RESISTORS —— ¼W, 5% UNLESS OTHERWISE NOTED.
* 2) TRANSISTORS Q1 - Q8 ARE 2N3563

Model 505B
D423461-Rev. 5A
June 1965

Beckman

FIRST BINARY
SCHEMATIC DIAGRAM



NOTES:
1) RESISTORS — ½W, 5% UNLESS OTHERWISE NOTED.
2) CAPACITORS — MM μF " " " ".
3) ALL TRANSISTORS ARE 2N3563 " " " ".
* TRANSISTOR IS BECKMAN A7SS-419596
4) ◇ DIODES ARE BECKMAN A7SS-420893

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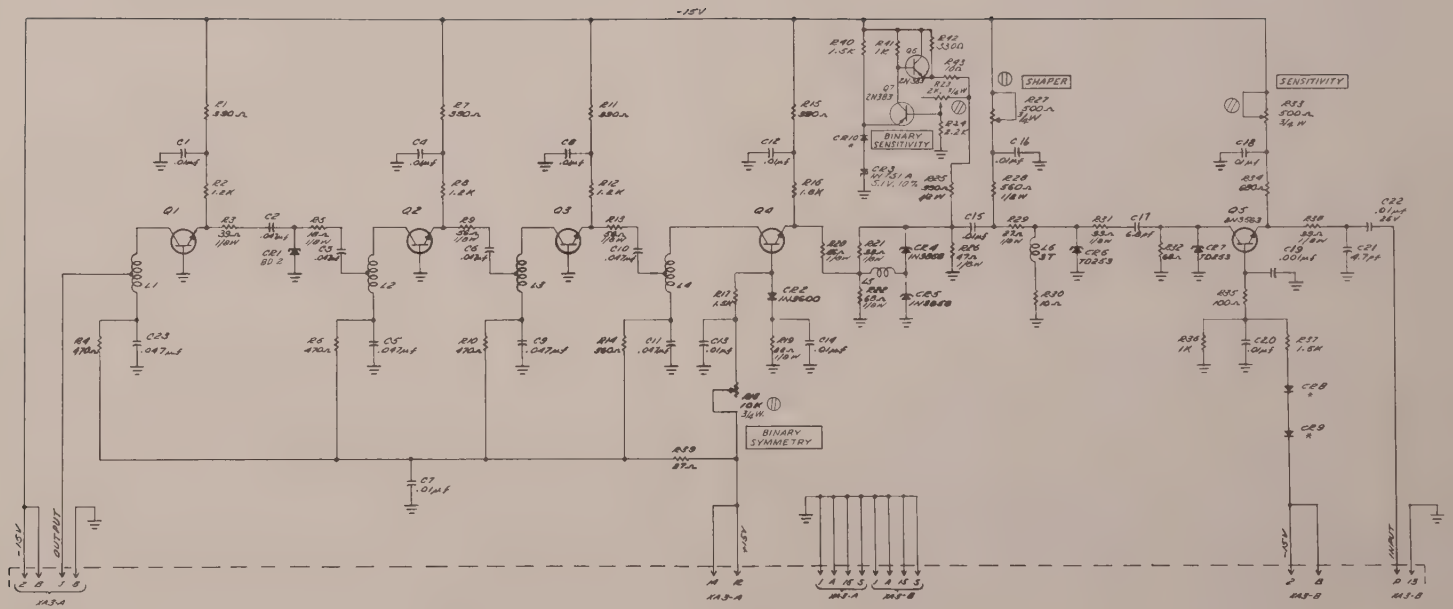
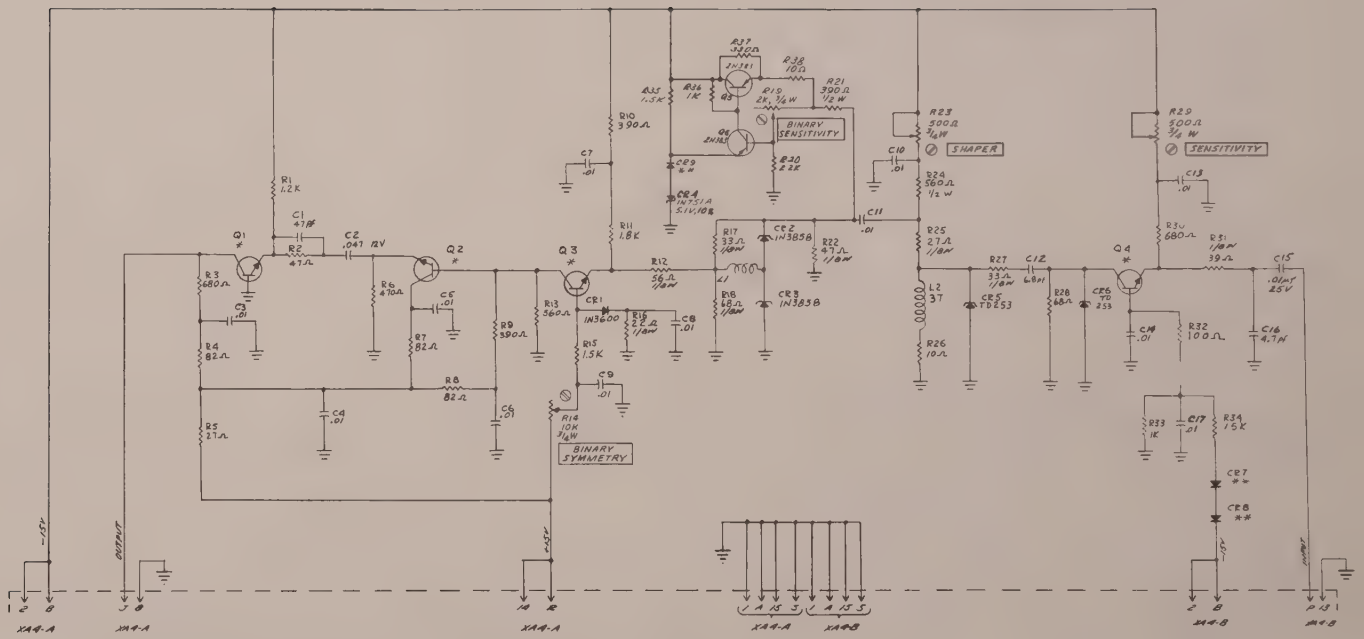
SECOND BINARY
SCHEMATIC DIAGRAM



NOTE:

1) RESISTORS 1/4 W, 5% UNLESS NOTED.
2) TRANSISTORS ARE BECKMAN A755-419596 UNLESS NOTED.
3) * DIODES ARE BECKMAN A755-420893.

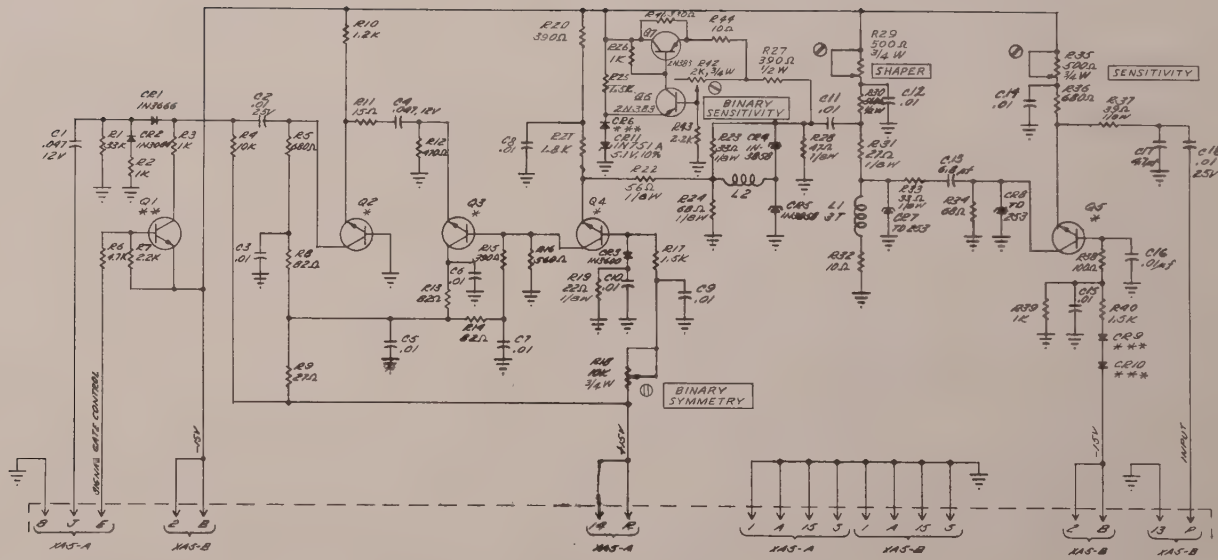
THIRD BINARY
SCHEMATIC DIAGRAM



NOTES:

1. CAPACITORS: IN μF UNLESS NOTED.
2. RESISTORS: 1/4 W, 5% " " ;
3. * TRANSISTORS ARE BECKMAN A755-419506.
4. ** DIODES ARE BECKMAN A755-4E0893.

FOURTH BINARY
SCHEMATIC DIAGRAM

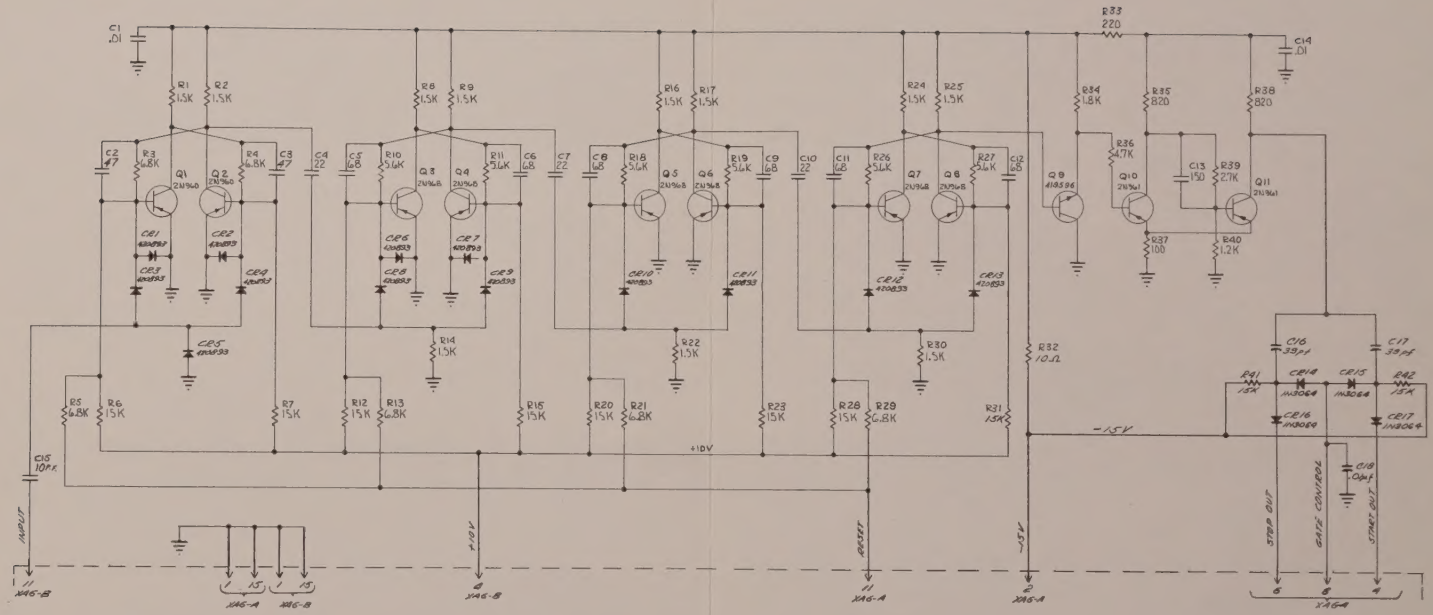


NOTE:
1.) RESISTORS— ½ W, 5% UNLESS OTHERWISE NOTED.
2.) CAPACITORS— IN mf " " " .
3. * TRANSISTORS ARE BECKMAN A755-419596.
** TRANSISTOR IS BECKMAN A755-410066.
4. *** DIODES ARE BECKMAN A755-420893

Model 605B
D423460-Rev D
January 1967

Beckman

TIME BASE DIVIDER
SCHEMATIC DIAGRAM



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